1-1-2011

Learning Without Onboarding: How Assessing and Evaluating Learning Benefits New Information Technology Hires

Dory L. Morris
Walden University

Walden University

COLLEGE OF EDUCATION

This is to certify that the doctoral study by

Dory Morris

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. William Shecket, Committee Chairperson, Education Faculty
Dr. Sara Rofofsky Marcus, Committee Member, Education Faculty
Dr. Janet Reid-Hector, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University
2013

Abstract

Learning Without Onboarding: How Assessing and Evaluating Learning Benefits New Information Technology Hires

by

Dory L. Morris

MS, American InterContinental University, 2005

BS, American InterContinental University, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Adult Education

Walden University

December 2013

Abstract

Onboarding ensures learning success through sharing and acquiring knowledge to remain competitive. However, little is known about new Information Technology (IT) hires' learning needs in the absence of onboarding; therefore, the purpose of this case study was to examine, increase, and retain their technical knowledge at the Unified Communications Company (UCC). Following the theoretical model of knowledge management, which holds that knowledge is the key to confirm learning and knowledge sharing, the research questions were used to examine how the company assessed and increased their technical knowledge and how they taught their culture in the absence of onboarding. A qualitative instrumental case study design was employed with a purposeful sample of 4 former employees who were former new IT hires at the UCC. These employees contributed to the study using journals, surveys, and interviews drawn from their experiences as new IT hires at the UCC. Reoccurring themes regarding formal learning were extracted from the data, validated through peer and member checking, and then triangulated with each round of data collection and the themes described in the literature. The themes of culture, onboarding, training, and experience/feedback consistently emerged as areas needing improvement and indicated a need for formalized training. Based on these findings, a job aid was created to provide enhanced performance and learning to offer knowledge throughout training. Companies employing new IT hires can use the results from this study to provide onboarding in addition to their current orientation. The use of these data would positively affect social change by enhancing company competitiveness and job retention while reducing overall unemployment and the skills gap.

Learning Without Onboarding: How Assessing and Evaluating Learning Benefits New Information Technology Hires

by

Dory L. Morris

MS, American InterContinental University, 2005

BS, American InterContinental University, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Adult Education

Walden University

December 2013

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Dedication

I would not be here if it were not for the support and dedication of my family and friends. You helped keep me sane in an otherwise insane endeavor, teaching adults and kids, being a wife and mother, and going to get my doctorate. Additionally and most importantly, to my husband who sat up nights watching TV shows to keep me company, and my mother who gave my kids breakfast when I was dead to the world. Lastly, for my children (and niece and nephews who watched my kids) who found ways to occupy themselves to give me the time I needed to write and edit (thank you Angry Birds, Star Wars Saga, Star Wars Angry Birds, and Shugo Chara, you were the distraction).

Acknowledgments

I would like to thank Dr. Garten for directing me when I could not find the direction in my proposal. I would also like to thank my chair, Dr. Shecket who took me on late in the game to guide me through the steps to completion and helped to speed up the process. His guidance helped me fulfill my lifelong goal, even though it might have been excessively many questions to answer. Moreover, of course, I want to thank the rest of my committee, Dr. Rofofsky-Marcus who worked hard to help me make my study great and Dr. Reid-Hector who put up with my impatience to ensure I produced quality.

I also must thank Nancy, she helped me make it through each class we shared and all the edits (30 plus) on my proposal. Because of her, I kept my hair. Furthermore, I must thank my mother, who taught me about knowledge management (knowledge transfer as it is called now) and helped with my main study questions. Yet again to my husband, Mike, who put up with a lot more than was known by others, and lastly, to my children – this was for you too.

Table of Contents

List of Tables

List of Figures

Section 1: The Problem

Introduction

Globalization stemmed from the interactions and changes of people and goods across boundaries. Everyone was interconnected through means that made it easier for companies and people to buy and work without needing to move (Eitzen & Zinn, 2012; Merriam, 2008). Globalization was not a new phenomenon, but had been around for more than a thousand years (Eitzen & Zinn, 2012). Vikings established settlements throughout Europe; India had trade routes with Africa, the Middle East, and Southeast Asia. Mohammad Ibn Musa-al-Khwarismi gave the western world algorithms and algebra, influencing the European Renaissance (Eitzen & Zinn, 2012). During the 1500s, Europeans traded and explored across the globe, settling in new and different regions, which brought high immigration, trade, and finance lasting throughout the 1800s and 1900s. After World War II (WW II), the disintegration of the different empires (British, French, Dutch, Belgian, etc.) facilitated the establishment of over 88 new nations with the ability to sell raw materials and products on the local and world markets. The 1980s brought about the Soviet Union's collapse that created another 18 countries, adding to the already established countries that were able to sell their goods and products to the world. All these new countries established and created local markets, selling the same or similar goods, as markets from other countries, increasing the competition through faster or better services (Eitzen & Zinn, 2012).

It was since the 1960s that the pace of globalization increased, from the changes in physical travel and communications to the amount of goods traded. Companies

(education or business) began to compete for the same customers, not just on a national level, but also on a global level (Delen & Al-Hawamdeh, 2009; Durkin, 2010; Eitzen & Zinn, 2012). Additionally, they recognized the connection to others who could create specific products (such as glass for a cell phone) or services (providing education globally and online); causing the increased interconnection between companies and people who were not previously interconnected (Eitzen & Zinn, 2012). The emergence of information technology (IT) accelerated the connections between people, between businesses, and between people and business (Delen & Al-Hawamdeh, 2009; Durkin, 2010; Eitzen & Zinn, 2012). New technologies, such as robotics, Internet, and fiber optics, enabled the transformation of sharing and storing of information. The Internet allowed for the retrieval and storage of data worldwide that could be sent in microseconds – through email, peer-to-peer networks, et cetera – increasing the amount of information available for consumption (Delen & Al-Hawamdeh, 2009; Durkin, 2010; Eitzen & Zinn, 2012). People could easily talk and collaborate with people from across their own country or other countries. Phone bills that were once hefty became comparatively cheap thanks to technologies like Skype or Vonage. People could train others in India while sitting at their computer in New York, and children and adults could learn and earn degrees (with appropriate engagement and work) at the click of a button.

The Internet, and subsequently globalization, did not bring about the increase of justice and world peace, as many proffered. It did, however, bring about a staggering rise in the amount of goods and services available (Morozov, 2012). For example, to lower the costs of manufacturing, companies produced products elsewhere, such as shoes, while

increasing competition and removing manufacturing jobs from developed countries because IT made it easier, faster, and cheaper to build products from different corners of the world (Eitzen & Zinn, 2012).

It was from this interconnectedness that companies, such as the company that was the focus of this study (called the Unified Communications Company to protect its privacy), began to realize that, through training, employees were the answer to gaining the competitive advantage over others in this knowledge economy (Bhatnagar, 2007; Dunn & Jasinsky, 2009; Sequent, Monster, Nationwide, & Human Capital Institute, 2008). Training played a vital role in preparing employees for their job tasks and for keeping them up to date with the latest information (Condic, 2009). With globalization, more companies appeared that were able to do the same work, sometimes cheaper, leaving other companies wondering how to compete. The cheaper, emerging markets offered companies the ability to send their work overseas, increasing unemployment at home. Consequently, globalization increased the outsourcing of jobs because it provided companies the ability to raise their profits while decreasing their need for low-skilled workers in order to manufacture in "countries with lower unit labor costs" (Keuschnigg & Ribi, 2008, p. 3). However, outsourcing did not reduce the talent gap; it increased it.

> Businesses complain that applicants lack experience, are untried and untested, and deficient in certain hard skills or technical competencies. These corporations refuse to hire workers who do not anticipate staying with them long term or show lack of dedication and commitment….those companies that invest wisely in talent and expertly manage it will have a competitive advantage in the near future.

> Skilled workers who possess in-demand skills are more discriminatory in their employment decisions, which cause companies to put more stress on their recruitment and retention initiatives. Thus, companies may realize that leaving positions vacant only saves money short term while having negative impacts on the future of the company. (Todd, 2012, p. 5-6)

Therefore, the emergence of globalization and the constant changing of technology caused organizations to feel obliged to change the way they trained their employees. This then led to the thinking that talent would bridge the gap for companies wishing to promote learning for continuous innovation, this being the key differentiator for competing in a globalized economy (Bhatnagar, 2007; Sequent et al., 2008).

To promote continuous innovation and remain competitive, training bridged the gap from learning in an educational environment to learning what was necessary to perform a job or function from the company's perspective (Dunn & Jasinski, 2009; Rothwell & Whiteford, 2011; Shehabat, Mahdi, Khoualdi, 2008). Training provided people with the skills and behaviors necessary to be successful by equipping them with the knowledge to perform in their current or future roles. In addition, training achieved productivity and helped people continuously gain skills to stay current in order to "avoid the skill obsolescence" (Rothwell & Whiteford, 2011, p. 149) while also being the short-term intervention technique to change attitudes and foster learning. Training provided information in a just-in-time model to allow employees to be productive, continue to learn, and share their knowledge with others (Dunn & Jasinski, 2009; Rothwell & Whiteford, 2011).

When people shared their knowledge, it became personalized and internalized with that newly formed knowledge leading to knowledge retention. It was from that knowledge retention that people produced new knowledge and the skills to stay current. Although *onboarding* was just the initial formal training to prepare the new hire for more training and lifelong learning, it also provided knowledge sharing to increase retention. Moreover, it included the new hire being able to contribute effectively and immediately, especially during down times. Onboarding, therefore, provided information and learning to newly hired staff so that they understood their role, the company (past, present, and future), and how they fit within the company (DBM & Human Capital Institute, 2011; Hampel & Lamont, 2011).

The Unified Communications Company (UCC), a pseudonym for the company studied, that provides business communications and collaboration systems, began as a division that introduced enterprise communications technology in 1995. When the UCC became its own company in 2000, it continued to build, design, and manage the communications networks for over 1 million global customers. The UCC, the case of the study, was considered a leading innovator of integrated communications for large, medium, and small businesses around the globe. Their technologies allowed businesses, educational institutions, and governments to collaborate and communicate in real time, in the way best suited for the situation. This eliminated the inefficiencies of trying to find compatible tools while making companies more productive and responsive (Dimitriades, 2005; Director of IT, personal communication, September 30, 2011).

The UCC recognized and identified knowledge as a corporate asset that emphasized the development of database systems and Intranets (such as self-service sites) to provide access to data when needed. Brown (2010) noted that the company's self-service tools were an impromptu and informal method to provide orientation to their new hires, although not its original intention. Their current orientation process consisted of a self-help website that included information about benefits (Brown, 2010), but excluded an onboarding program to assess current knowledge and evaluate future learning (Johnson, 2010; Nelson, 2011; Rosenheck, 2009). However, researchers have shown that to capitalize upon the knowledge within a company and to compete globally, onboarding provided a training environment that allowed new IT staff the ability to understand, learn, and begin to grow with the company through sharing skills, knowledge, and techniques (Dimitriades, 2005; Hampel & Lamont, 2011; Rhodes, Lok, Hung, & Fang, 2008). Onboarding provided that initial training to certify optimal learning and innovation through assessments and evaluations for new IT hires (Adler & Stomski, 2010) to understand what content was needed for them to be successful, rather than hoping they would succeed (Nelson, 2011; Rhodes et al., 2008). In addition, onboarding provided learning, offered compliance, adapted learning, and quickened the learning process for new people while it provided them with the expertise, information, approaches, and methods required. Some companies used onboarding to aid in the training of new hires so that they were able to understand the purpose and receive support for continual learning (Bauer & Erdogan, 2011; Golubski, 2011; Nelson, 2011). Onboarding offered

new people the learning required for them to feel comfortable within their roles, whether as a student or employee (Johnson & Senges, 2009).

I focused this study on learning for new IT hires, by using a case study approach (Hatch, 2002; Yin, 1981, 2009). This approach included guiding questions to focus the study upon understanding how to increase and retain the technical knowledge of new IT hires when there was neither an assessment of their current knowledge nor an evaluation of learned knowledge. From the perspectives of former IT employees from the UCC, the first aspect focused upon what new IT hires needed to learn to perform their jobs adequately. The second aspect focused upon understanding how to increase technical knowledge through assessing and evaluating the learning newly hired IT staff needed to be productive. Lastly, the third aspect of the study focused on what were the processes needed to understand what knowledge an IT hire provides (in terms of knowledge and training) and the evaluation techniques needed to ensure learning.

Definition of the Problem

This study was an investigation into the problem of adequate training for new IT hires. The problem was that the UCC used self-service tools as an informal orientation without assessing and evaluating the current knowledge to increase and retain the technical knowledge of new IT hires. Since onboarding assessed and evaluated what new hires needed to learn to be successful, it would provide the UCC the continuous ability to learn and innovate while remaining competitive in the knowledge economy (Bradt & Vonnegut, 2009; Dunn & Jasinski, 2009; Graybill, Carpenter, Offord, Piorun, & Shaffer, 2013; Plunkett, 2010; Smith, 2010). Retaining talent benefitted companies because

hiring new IT employees, or any employee, was an expensive and extensive undertaking (Foley, 2010; Swanson, 2009). Orientation, however, provided newly hired IT personnel usually with too much, or not enough information about the company, and primarily consisted of papers to sign (Dimitriades, 2005; Hampel & Lamont, 2011; Rhodes et al., 2008; "To Improve Employee," 2010). According to Williams (2010), informal orientations were inadequate to retain new hires. Therefore, without onboarding, it would be difficult to assess what new IT hires needed in order to be able to learn the procedures for software/hardware development (Wang, 2012). A company would not be able to evaluate their learning to ensure that learning transfer, and learning objectives were met, without the assessments and evaluations that onboarding provided (Bradt & Vonnegut, 2009; Plunkett, 2010; Smith, 2010).

The UCC offered new IT hires access to self-service tools that enabled it to manage its global workforce better, which included providing them access to address their human resource problems. However, this only included information on compensation, benefits, and general information, which allowed for less person-to-person transactions (Brown, 2010). These self-service tools were a way to allow managers to make moves, additions, and changes within the organization while it decreased headcount, decreased cost, and provided measurement of general human resource services (Project Manager, personal communication, September 30, 2011). However, these self-service tools were only the beginning of the information needed for new IT hires to become successful in the UCC (Davis & Shannon, 2011; Hampel & Lamont, 2011).

This is a problem because less than 20% of new hires in a company completely understand their roles within 18 months (Adler & Stomski, 2010; Davis & Shannon, 2011) and 22% leave within the first 45 days, taking their knowledge and innovative ideas with them (Dodaro, 2008). The first weeks on the job were critical to the success of the new hire because it was during this time that impressions, feelings, attitudes, job satisfaction, and loyalty were affected (Dunn & Jasinski, 2009). Furthermore, without adequate training, companies stood to lose an estimated $37 billion from employee misunderstandings of roles, policies, and processes (Fritz, Kaestner, & Bergmann, 2010). Companies could avoid performing the same mistakes and keep their knowledge if they retained their new IT hires rather than the company having to relearn what was already lost while continually losing knowledge and knowledge creation in the process.

Sequent et al. (2008) and other researchers (Dodaro, 2008; Swanson, 2009, Traynor, 2008; Whitaker, 2009) agreed that the most important aspect of a company's future relied upon attracting and retaining top talent. Knowing what strategies were effective in onboarding new IT hires would allow for greater learning, higher productivity, and less money spent on replacing the knowledge and people lost (Adler & Stomski, 2010; Swanson, 2009). This was especially true of IT employees, since technology constantly changes due to the dynamic nature of knowledge, rendering "work-related knowledge out of date faster" (Rothwell & Whiteford, 2009, p. 149) and all other forms of information obsolete within 72 hours (Atwood, 2009; Merriam, 2008).

Possible factors that contributed to this problem were that during difficult economic times, companies removed training and onboarding, viewing it as "welfare"

(Rothwell & Whiteford, 2011, p. 149; Sheranian, 2010). Sheranian noted that although reductions in costs seemed the best strategy, in turn it caused a shortage of enough skilled workers to continue growing. Up until the 2000s, other companies regarded training as a quick orientation for new hires to figure out what to do on their own with little or no support from the company (Adler & Stomski, 2010; Cross, Thomas, Dutra, & Newberry, 2007; Graybill et al., 2013; Hampel & Lamont, 2011; Rothwell & Whiteford, 2011; "To Improve Employee," 2010). Consequently, employees were left without opportunities to share their valuable knowledge (Sheranian, 2010). According to Whitaker (2009), employees who left within the first 30 days of employment cited one of the problems usually as inadequate or missing onboarding, and, along with Dodaro (2008) and Traynor (2008), realized that those who completed onboarding programs were 58% more likely to stay over the course of 3 or more years. In addition, companies who provided onboarding to their new hires improved performance and reduced turnover by 66% (Fritz et al., 2010). This was because "learning and development opportunities, and the quality of those opportunities, have been found to be key factors in employee engagement" (Nelson, 2011, p. 13).

Rationale

For companies to compete in the global knowledge economy, it necessitated the need to understand that keeping their top talent required preparation from the beginning. The UCC relied upon a self-service Intranet site as an informal means of orientation, without assessing the new IT hires current knowledge or evaluating their new knowledge to guarantee that learning needs were met (Brown, 2010; Director of IT, personal

communication, September 30, 2011; Project Manager, personal communication, February 10, 2012). It was stated that the UCC implemented self-service tools as an informal orientation process to reduce human resources (HR) transactions and cost. The company placed these self-service tools to help new IT hires (and all other hires) find pertinent information by themselves without the need to have spoken with their coaches (bosses) or to the HR personnel (Director of IT, personal communication, September 30, 2011; Project Manager, personal communication, February 10, 2012). However, onboarding was a process that lasted approximately 3-6 months sometimes up to 18 months depending upon the complexity and job level, and assessed the current knowledge to see what was needed for their learning while it evaluated what did and did not work each time the program was offered (Hampel & Lamont, 2011; Nelson, 2010; "To Improve Employee," 2010).

Learning takes time and patience through distinct stages and onboarding provided the necessary customization (while keeping it general enough for multiple new hires) to ensure learning because people have a distinct way that they obtain knowledge (Adler & Stomski, 2010). Orientation, though, consisted of new IT hires viewing outdated videos, a program created for the masses (instead of individualization), and conducted in a classroom without assessing or evaluating what needed to be learned or what was learned (Traynor, 2008). Consequently, new hires would leave that first day feeling like outsiders unsure if they should stay (Graybill et al., 2013; "To Improve Employee," 2010).

Rothwell and Whiteford (2011) and Serbin and Jensen (2013) showed that providing training to new hires would provide a future for companies in order to remain competitive because training was considered one of the best retention techniques of new hires. Holtshouse (2010) explicated that to remain competitive; companies would need to "increasingly depend on access to and utilization of relevant knowledge critical to its operations, and the performance and skill of its knowledge workers" (p. 193). Shehabat, Mahdi, and Khoualdi (2008) proffered that companies must use the knowledge, gained from training, to create and share that knowledge to stay competitive as well. Therefore, training new IT hires would provide companies IT innovation and longevity.

According to Lee and Roth (2009) and Petrides and Nguyen (2006), companies must be open to change and recognize that internal and external forces were at play in their decisions. In addition, to maximize their resources with less money, they must rethink what and how they do things while changing their structures and cultures to persist (Lee & Roth, 2009; Petrides & Nguyen, 2006). Since 90% of a worker's learning took place on-the-job (Rothwell & Whiteford, 2011), for those companies that did grow and globalize (including expanding their employee base), it was important for them to assess and evaluate their knowledge assets to continue competing on a global scale (Hills, 2010; Lelic, 2002; Milam, 2001). Market globalization and the ever-increasing access to information and data from technology, such as the Internet, have propelled companies to change at rather intense speeds (Berggren & Bernshteyn, 2011). These changes made it more important than ever to assess and evaluate the learning needed for new IT hires because they could fall into current practices, as a result losing knowledge, innovation,

jobs, and learning (Batcheller, 2011; Foley, 2010; Garvin, 1993; Rothwell & Whiteford, 2011; Skyrme, 2011).

In order to keep knowledge, innovation, and learning, knowledge management (KM) promoted the constant evaluation and assessment of current and learned knowledge in order to make it become one's own knowledge (Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002). Therefore, KM related to onboarding because they both constantly and consistently assessed and evaluated learning to ensure retention and growth of knowledge and to promote innovation (Atwood, 2009; Kane, Robinson-Combre, & Berge, 2009; Laal, 2010; Graybill et al., 2013; Johnson, 2010; Nelson, 2011). However, KM was a framework that managed information for immediate use; onboarding provided new staff with the skills, attitudes, and knowledge necessary to be productive (Atwood, 2009; Kane et al., 2009; Graybill et al., 2013). Consequently, KM was the appropriate theory for this study because of its components that required the reflection, assessment, and evaluation of current programs and practices while focusing on the retention of jobs and learning (Santo, 2005).

Businesses and educational institutions used KM as a way to improve their knowledge and learning to increase the sharing and amount of knowledge retained (Garvin, 1993; Sallis & Jones, 2008). IT was used to create software to capture the knowledge for future reference (such as databases), through which knowledge was standardized, stored, and distributed (Santo, 2005). Through KM, the software retained the knowledge for ease of access as well as designed for people to assess and evaluate

current knowledge in order to increase and retain the technological knowledge of new IT hires (Batcheller, 2011; Garvin, 1993; Mitri, 2003; Santo, 2005).

Definitions

Affectual knowledge: The sentiment attached to certain objects (Yang, Zheng, & Viere, 2009).

Company: Any type of business, such as educational, nonprofit, for profit, communications, information technology, small, large, et cetera (Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Petrides & Nguyen, 2006).

Critical knowledge: A transformational learning experience provided for (or by) a person that consisted of the affectual and emancipatory knowledge aspects (Yang, 2003).

Culture: A group-level phenomenon of shared values and beliefs – a social construct that encompasses shared understandings and is "composed of explicit and tacit assumptions or understandings commonly held by a group of people" (Boyacigiller, Kleinberg, Phillips, & Sakmann, 2004, p. 100; Foster-Thompson & Beal, 2009).

Emancipatory knowledge: Feelings and emotions directed at certain objects; what people believed the world should be – free from natural and social constraints (Yang, 2003).

Employee: Someone who is an executive, manager, nonmanager, associate, full time, part time, or contract worker (Nelson, 2011; Nifadkar, 2009).

Engagement: Where the person is present psychologically, physically, and emotionally in their job; it is the intersection of "maximum job satisfaction and maximum job contribution," (Nelson, 2011, p. 28) and encompasses the dimensions of rational

(understanding), emotion (passion), and motivation (effort [Nelson, 2011; Saks & Gruman, 2011]).

Globalization: The process of where "goods, information, people, money, communication, fashion (and other forms of culture) move across national boundaries" either by technology or transportation (Eitzen & Zinn, 2012, p. 1).

Just-in-time: Subject matter experts provide material when the person looking for the information needs it at that precise moment (Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Sallis & Jones, 2008).

Knowledge: The information, data, or content in action, understood, valued, and used that a person or organization possessed through formal and/or informal learning (Easterby-Smith & Lyles, 2011; van Caenegem, 2002; Shehabat et al., 2008).

Knowledge management: The process of managing the creation, gathering, analyzing, dissemination, organization, sharing, and acquisition of knowledge provided for the right person, in the right place, at the right time, in the right format (Atwood, 2009; Kane et al., 2009; Laal, 2010; McElroy, 2002; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Sallis & Jones, 2008; Zheng, Yang, & McLean, 2010).

Knowledge sharing company: This type of company uses knowledge to hold the company and their employees together to remain globally competitive (Chinowsky & Carrillo, 2007; Sallis & Jones, 2008).

Learning: This is a process where people acquire information and knowledge (Easterby-Smith & Lyles, 2011).

Onboarding: The process or program that lasts usually a few days up to 18 months, and provides new employees with the skills, knowledge, attitudes, and techniques required to fit within the company's culture and their roles (Graybill et al., 2013; Hampel & Lamont, 2011; Johnson, 2010; Nelson, 2011; Rosenheck, 2009; Traynor, 2008; "To Improve Employee," 2010; Wang, 2012).

Technical knowledge: The knowledge of an applied science as it pertains to the application of computers, such as, software (databases, programs), or hardware (laptops, desktops) (Atwood, 2009; McElroy, 2002; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Sallis & Jones, 2008).

Training: A type of learning intervention to change attitudes and foster learning, providing people with the knowledge to achieve productivity and gain skills to stay current (Rothwell & Whiteford, 2011).

Unified communications: It is the combination of instant messaging, presence, conferencing, unified messaging, social networking, and other combinations of IT applications (Gareiss, 2009).

Unified Communications Company (UCC): The company being studied that specializes in the integration of voice, video, and data for collaboration and communication in real time with offices across America and in over 50 other countries. Additionally, the company acquired new acquisitions, leading to new hires, approximately once a quarter to gain new technologies and business providing them with approximately 15,000 employees worldwide.

Significance

This study was significant in multiple ways. First, this study would allow the company studied, and possibly other companies, to use the data generated to develop an understanding of what their IT hires would need to learn to become productive employees. Furthermore, it served as a means of evaluating their learning to know if their current orientation program met their learning needs. Secondly, this study increased the technical knowledge of new IT hires because it would provide the company with the understanding of the learning needed for their new IT hires to become successful while aligning them with the company culture through onboarding. Thirdly, current employees would benefit from the increase in technical knowledge because they would be able to use the new and current knowledge from new IT hires to learn new strategies without repeating the same mistakes. Fourth, new and current employees could benefit from the retention of knowledge from new IT hires because of the sharing of learned knowledge and their internalization of the information – making it their own. The benefit gained was from employees using new and current knowledge, which increased innovation and creativity as well as learning and jobs.

Onboarding fostered a sense of belonging, increased companywide morale, increased learning, and could enable the UCC (or any company) to keep their current employees and their new hires – including new IT hires. It added to the body of knowledge about onboarding and whether using a KM theoretical framework to guide the research would increase learning, productivity, knowledge sharing, and trust, leading to knowledge retention. Finally, this study impacted social change through providing

companies information on how using onboarding to assess and evaluate current new IT hires' learning would increase, retain, and improve their technical knowledge to reduce redundancy, reduce the talent gap, increase learning, and therefore, increase jobs.

Guiding/Research Question

The purpose of this study was to use a qualitative case study to explore how the UCC increased and retained technical knowledge since the company did not assess and evaluate their new IT hires' previous and new knowledge (Batcheller, 2011; Dai, De Meuse, & Gaeddert, 2011; Graybill, 2013). The UCC provided technology to businesses, governments, and schools throughout the world, but did not indicate how they assessed their new IT hires' previous knowledge and evaluated their future learning needs. This study explored the company's former IT employees' perspectives on what learning would be needed to be productive through the theoretical lens of KM as discussed by Atwood (2009), Bali, Wickramasinghe, and Lehaney (2010), Drucker (1988), Kane, Robinson-Combre, & Berge (2009), Laal (2010), McElroy (2002), Koenig (2012), Nonaka and Takeuchi (1995), Nonaka and Toyama (2002), and Sallis and Jones (2008).

Specifically, the focus of this study was to understand what new IT hires needed to learn to become successful and productive employees. The research questions concentrated on how the UCC assessed and evaluated what new IT hires already knew to increase their learning and knowledge when onboarding was absent by exploring with documentation, surveys, and semistructured interviews. Based upon their experiences at the UCC, the guiding questions included: "How did the company assess and increase the technical knowledge from IT hires when they did not use onboarding?" and "How did

the company teach new IT hires their culture, without onboarding, to ensure adequate learning and retention?" The sub research questions are provided below:

1. Since the Unified Communications Company did not have onboarding, how could a company use onboarding to assess and evaluate current and future knowledge needed?
2. What do new IT hires need to learn during the first few months to become productive and successful employees?
3. What processes would need to be in place to be able to assess current new IT hire knowledge and increase their knowledge?
4. What were the current processes to ensure that new IT hires were receiving the training needed to perform their jobs adequately?

Review of the Literature

The purpose of this review was to provide a comprehensive summary of what the literature explained about the role of onboarding and its role in assessing and evaluating the current and future learning needs of new IT hires. The theoretical concepts of KM in the diffusion and dissemination of knowledge was the basis of this review. In addition, this review was to explore the literature on how onboarding related to KM and provided information about onboarding and KM in the educational sector along with their growth in companies to promote learning.

This literature review came from conducting searches through books, articles, dissertations, and electronic articles by using the Walden University library, the local library, and Google Scholar. Within the Walden University library, the ProQuest

Dissertations, ERIC educational database, SAGE, and EBSCOhost were some of the databases used to find books and articles to aid in the understanding of onboarding and knowledge management. The search methods included using the terms *knowledge management*, *knowledge management and onboarding*, *onboarding and learning*, *onboarding and mentoring*, and *holistic knowledge management* to name a few of the search terms.

To gather information about onboarding, the Walden University library and Google Scholar were used using the terms *onboarding programs, onboarding programs and benefits to new employees, onboarding and learning*, *onboarding and IT hires, onboarding and new hires,* and *onboarding and knowledge management*. The books, such as *Knowledge Management in Education: Enhancing Learning and Education* (Sallis & Jones, 2008) and *The Sage Handbook of Qualitative Research* (Denzin & Lincoln, 2005), along with others, were purchased from Amazon or borrowed from the Lehigh County Library.

This review of the literature began with a look at the history of onboarding, its constructs, and its function as a learning agent; followed by a discussion on onboarding as a case study, based upon former IT employees and their experiences with being new IT professionals at the UCC. This review provided a discussion on the theoretical framework of KM, focused on the constructs, and its evolution into a holistic knowledge management framework. Similarities included for both onboarding and KM consisted of mentoring, socialization, trust, and engagement and discussed the use KM provided people and companies. KM and onboarding required the provision of knowledge to and

from the new hire, such as how to perform their roles, what specific information was needed and when, where to go to get information, and to share and create new knowledge.

Theoretical framework of Knowledge Management (KM)

To describe the concepts of onboarding and its use for learning and innovation, it was important to explain the theoretical underpinnings of onboarding. Although the two terms (KM and onboarding) were different, many of the components and concepts of both were similar. Both promoted the sharing of knowledge to increase learning and required assessments and evaluations for continuous learning and improvement, as well as the requirement of having top involvement, not through HR or IT (Dunn & Jasinski, 2009). The argument, then, was that KM and onboarding programs related through the sharing and dissemination of knowledge to the new hire (Bushardt et al., 2011; Rhodes et al., 2008). Furthermore, onboarding programs combined the HR department, the new hire's department, and various others for collaboration to obtain compulsory information for increasing their learning and innovation (Afiouni, 2007; Athey, 2008; Swanson, 2009; Yung, 2009). Because of the holistic nature of onboarding programs and the combining of multiple departments, it led to KM through the assimilation of the new hire to receive feedback, thereby increasing their learning (Afiouni, 2007; Athey, 2008; Chapman, 2009; Plunkett, 2010; Swanson, 2009; "To Improve Employee," 2010; Yung, 2009).

History of KM. For millennia, people have passed down their knowledge to safeguard the continuation of their family or of their people, such as hunters teaching their young, or teachers teaching new teachers (Wiig, 1997). The shift towards

knowledge based products and services, however, began after WW II. Bali et al. (2010) stated that knowledge management was the result of a paradigm shift in business environments and was the key approach that aided in superior decision-making and solved current business problems, such as competition. Since then, scholars discussed the proliferation of information about business thinking and cognitive science and studied it in the 50s and 60s respectively; bringing even more changes and disciplines to study (Schuett, 2003). It was during the 1960s, however, that Polanyi (1962) began to discuss knowledge through the example of speech and development. This was where tacit flowed into explicit and back through text, the suggested conception, and through the experiences that bore the learning. Polanyi explained that knowledge was similar to "acquiring a skill, whether muscular or intellectual, we achieve an understanding which we cannot put into words and which is continuous" (p. 94).

After Polanyi (1962) began discussing knowledge in terms of language, Drucker began using the term knowledge worker, mentioned first by social scientists (Schuett, 2003). Then, in the 1980s, people began to take notice that some companies' focused on learning and innovation, while other companies during that time did not (Wiig, 1997). However, it was not until the 1990s that knowledge management truly took off as a discipline of study. Its origins came from a combination of organizational learning, strategy, and information systems literature that converged into a focused assessment and evaluation of learning (Jashapara, 2005; Schuett, 2003; Wiig, 1997).

From those origins, Drucker (1988) described that companies previously used data as a means of control, rather than for informing their employees. As the Internet

opened up new channels for information gathering, it changed the way that those companies made their decisions – companies had to rethink their processes (Lee & Roth, 2009; Petrides & Nguyen, 2006). Drucker explained information as "data endowed with relevance and purpose" and to convert the data into useful information required knowledge (p. 4). Durkin (2010) noted, "One of the most fundamental changes of our age is our access to information" (p. 54). Knowledge creation converted knowledge from data to information in a form understood by anyone while creating value from the intangible and tangible assets within a company (Bali, Wickramasinghe, & Lehaney, 2010; Drucker, 1988; Laal, 2010). Allowing the transmission of information globally within milliseconds caused massive changes to our world, and our responses to it (Durkin, 2010).

Nonaka and Takeuchi (1995) took Drucker's (1988) and Polanyi's (1962) research and developed the organizational theory of KM to explain how Japanese companies continued to be successful from the 1970s on. This was because companies were "built on knowledge – history, successes, failures, research, [and] the experiences of individual employees" (Atwood, 2009, p. 3). Sveiby (2001) explained that Nonaka noticed how American companies did not focus on developing and protecting their invisible assets, the intangible knowledge – "the goodwill of clients, reputation, loyalty, and trust in business relationships" (p. 5) that contributed to the company's ability to remain competitive. This theory of KM (also known as organizational knowledge creation and knowledge transfer) came from the capabilities of a company as a whole to create knowledge, disseminate it throughout (top-down, bottom-up, & laterally), and

personify that knowledge in all that the company did (Nonaka & Takeuchi, 1995). After Nonaka and Takeuchi (1995), Zheng, Yang, and McLean (2010) noted (based on Davenport and Prusak's work from 1998) that knowledge management embodied three processes, knowledge generation, knowledge sharing, and knowledge utilization. Knowledge generation referred to the knowledge produced from outside sources and from within (Zheng et al., 2010). Knowledge sharing mentioned the transfer of knowledge from one person to another, from people to groups, and from group to group. Lastly, knowledge utilization noted the actual use of that knowledge. Together, the three processes created, disseminated, and used knowledge to create knowledge (Zheng et al., 2010). Therefore, knowledge creation (shown in Figure 2) stemmed from the use of converting from explicit and tacit knowledge (and back again) in a cyclical nature as well as in the understanding that it was difficult to efficiently trade knowledge separated from the people that knowledge resided within (van Caenegem, 2002).

	COLLECTING (STUFF) & **CODIFICATION**	CONNECTING (PEOPLE) & **PERSONALIZATION**
DIRECTED INFORMATION & KNOWLEDGE SEARCH EXPLOIT	• Databases, external & internal • Content Architecture • Information Service Support (training required) • data mining best practices / lessons learned/after action analysis **(HARVEST)**	• community & learning • directories, "yellow pages" (expertise locators) • findings & facilitating tools, groupware • response teams **(HARNESS)**
SERENDIPITY & BROWSING EXPLORE	• Cultural support • current awareness profiles and databases • selection of items for alerting purposes / push • data mining best practices **(HUNTING)**	• Cultural support • spaces - libraries & lounges (literal & virtual), cultural support, groupware • travel & meeting attendance **(HYPOTHESIZE)**

From: Tom Short, Senior consultant, Knowledge Management, IBM Global Services

Figure 1. KM Explained Courtesy of International Business Machines Corporation, © International Business Machines Corporation. Reprinted with permission**.**

Tacit was technical and contained those "informal and hard-to-pin-down skills or crafts captured in the term know-how" (Nonaka & Takeuchi, 1995, p. 9) that were contained in the minds of people (Laal, 2010; Shehabat et al., 2008; van Caenegem, 2002). Explicit knowledge, conversely, consisted of easily expressed words, processed by computers, transmitted over the internet, or stored within a database (Chinowsky & Carrillo, 2007; Koenig, 2012; Laal, 2010; Nonaka & Takeuchi, 1995; Shehabat et al., 2008; van Caenegem, 2002). Knowledge management, according to Laal (2010), and Sallis and Jones (2008), was important in that without it, companies were "unlikely to continue as functioning enterprises" (Sallis & Jones, 2008, p. 1) due to globalization and the information age.

Evolution of KM. The combination of socialization, engagement, mentoring, and trust were the components of the KM socialization, externalization, combination, and internalization (SECI) model proffered by Nonaka and Takeuchi (1995, p. 71) and further explained by Nonaka and Toyama (2002, p. 996). The SECI model explained the processes of socialization, externalization, combination, and internalization. Knowledge flowed from socialization (the introduction to the knowledge) to externalization (sharing the knowledge and creating new knowledge). From there, knowledge flowed to combination and finally to internalization, "basically from the raw experience to understanding, then to categorization, and finally to the creation of personal mental models that transcend the experience" (Mahasinpaisan, 2011, p. 4).

The personal mental models that transcended the experience to create the internalization of knowledge allowed KM to breed trust between those sharing and those

receiving the information to become a knowledge sharing culture (Sallis & Jones, 2008). However, for a company to become a knowledge sharing company, knowledge sharing must be the goal (Laxton & Applebee, 2010). According to Zheng et al. (2010), knowledge management promoted higher levels of organizational effectiveness through organizational culture. Therefore, for knowledge sharing to work, it included using the knowledge from people who were experienced to increase education for new IT hires, companies then did not have to reinvent the wheel every time by applying the current and previous knowledge to form new knowledge, creating a continuous learning cycle (Diakoulakis, Georgopoulos, Koulouriotis, & Emiris, 2004; Gordon, 2005; Parise, 2007; Wallace, 2009; Wang, 2012).

As KM grew in acceptance, a new model was developed (McElroy, 2002, p. 3). McElroy mentioned that it was not actually a model, but more of a framework that focused on the cycle of knowledge creation, rather than the assumption that knowledge already existed for immediate use and that people engaged in learning when a gap in practice or knowledge was recognized (McElroy, 2002). From the recognition of gaps, people discussed and provided arguments or theories to close those gaps in knowledge.

As people continuously engaged in learning, researching problems, and the gaps in learning and practice, they formed groups and – in the broadest sense of the term – subjected their ideas to peers for review and either discovered new information or scrutinized current information (McElroy, 2002). Depending upon the situation, peer reviewing was as far as the creation of knowledge went, but within a company, "validation must also occur… in the minds of a controlling group or authority" (McElroy,

2002, p. 4). Then, the knowledge validated by those in authority became surviving knowledge claims and those that did not became known as falsified knowledge claims or undecided knowledge claims (p.4). Those in authority kept and recorded all generated knowledge for future reference. As the surviving knowledge claims were evaluated and validated by those in authority, people at each level began to disseminate them, thereby integrating it into their culture and operations (McElroy, 2002).

KM today. The use of KM, however, was to coordinate, create, and integrate knowledge (Laal, 2010). Moreover, creating a knowledge sharing culture required the creation of networks with others through either on-the-job training or various other means of learning (Diakoulakis et al., 2004; Koenig, 2012; "Share Baby Boomers," 2010; Whitaker, 2009). In addition, that new knowledge required not sharing information piece-by-piece, but ensuring that the company focused on the knowledge capture and reused it in an integrated form for continuous growth (Delen & Al-Hawamdeh, 2009). Effectively managing knowledge, though, required using solutions that combined people and technology, rather than strictly focusing on technology (Emelo, 2009). Delen and Al-Hawamdeh noted, "There is a need to achieve a certain degree of harmonization between people, technology, and information" (p. 143). In most situations, however, Emelo noted that many companies only centered upon the technology of knowledge-based systems, rather than the use of both technology and human input to obtain and provide a rich learning experience. Therefore, the holistic knowledge management model aimed to eliminate the ambiguities that often plagued KM initiatives through the

purposeful inclusion of the framework in strategic management practices (Diakoulakis et al., 2004).

Using the organizational, strategic, technical, and human resources management tactics and processes of KM provided a complete picture of the company and the learning required (Diakoulakis et al., 2004). Yang, Zheng, and Viere (2009) argued that it was more than combining the tactics; it consisted of leveraging the critical facet of knowledge learning to provide productive environments where participants engaged in knowledge sharing (p. 285). By leveraging the critical (affectual and emancipatory) facet of knowledge learning, it provided productive and transformative learning environments for new IT hires (Yang et al., 2009). As a result, the holistic knowledge management framework facilitated the sharing of more tacit knowledge that was difficult to obtain through written documents, thus adding the human aspect of learning (Parise, 2007; Parise, Cross, & Davenport, 2005). By adding the human aspect, "human and organizational resources, more than physical, technical or financial resources, can provide a firm with sustained competitive advantage because they are particularly difficult to emulate" (Bhatnagar, 2007, p. 645-646). Parise proposed that KM must include the people, processes, and strategic facets – such as manager support – to have successful outcomes. Koenig (2012) and Santo (2005) explicated on that further in noting that KM needed obligatory lessons learned databases filled with what the team discovered throughout their time on that particular project, something that corporations often forgot. It was through the formal and informal networks of new hires where they obtained timely expertise that enabled the more relevant sharing of tacit knowledge

through the application of a holistic knowledge management framework to onboarding programs. It was through these facets in which most of the critical work was done and learned (Parise, 2007).

According to Koenig (2012), the focus of KM now was to create taxonomies and focus on content. This stage in the evolution of knowledge management was known as the "it's no good if they try to use it but can't find it" stage (para. 34), which caused people to focus on content as well as ease of access. Koenig explained that the focus on taxonomies and content derived from the importance of the content and its relevance toward the tasks, but also toward the retrievability of the content. Over the past few decades, taxonomies importance had grown to explore and discover what did and did not work to create those taxonomies (or classifications and models) from the knowledge management discipline (Hlava, 2013). As it focused on the content and taxonomies, KM continuously grew to include more disciplines to become useful to organizations, from beyond the customers to knowledge that originated from the scientific and scholarly communities (Hlava, 2013; Koenig, 2012).

Criticisms of KM. Although KM had been around for decades and had shown its benefits, it was not without its criticisms. In the 1990s, major consulting companies began to rally around this new management technique, and with the proliferation of laptops, it allowed consultants to work from anywhere (Koenig, 2012; Schuett, 2003). The ability for consultants to work from anywhere and in a more distributed fashion, even at their clients' offices, changed the dynamic of the consulting organizations, losing the informal face-to-face knowledge exchange between consultants within the consulting

firm's offices (Koenig, 2012; Schuett, 2003). Therefore, this prompted the creation of new processes of knowledge exchange for consultants to share their knowledge among their colleagues that consultants began to like (Schuett, 2003, p. 452). However, when consultants discussed KM to their clients, they disregarded that their clients had not invested in the necessary technology (laptops) and had not begun changing their work processes (to include more knowledge sharing), leading KM to become what many thought of as a trend (Schuett, 2003).

The second critique came about during the second half of the 1990s: Many companies joined the cause to push KM with the belief that one could easily codify knowledge into a database system based on Nonaka and Takeuchi's research (Schuett, 2003). Their research was partially based upon the theory of Polanyi (1962) in which he stated that knowledge was either in the brain of people and hard to explain or had the potential to be coded. The problem with that thinking, according to Schuett (2003), was that Nonaka believed knowledge could be "moved like a thing between the two extremes" (p. 452) based upon Nonaka's systems knowledge. This thinking perpetuated the notion of KM mostly being technology centered that focused on document management, data warehousing, data mining, et cetera. Some researchers believed KM to be a simple relabeling of old technology and techniques (McElroy, 2002).

Another criticism was that KM was little more than a repackaging of information management and that it lacked a philosophical introspection on what knowledge was (Jashapara, 2005). According to Jashapara (2005), researchers based their criticism on a biased use of the core journals and only focused on a single phrase, rather than the

multitude of phrases that comprised the discipline (p. 140). According to Jashapara, researchers proclaimed KM to be a fad; people thought that KM would decline in popularity not long after it was introduced, similar to the previous management disciplines. However, if KM were truly a fad, the research articles would have peaked in the beginning and then would have "decline[d] rapidly" (Jashapara, 2005, p. 140). The other previous disciplines, which peaked within approximately five years, began to decline as enthusiasm began to wane.

As a way to improve organizational performance, consultants introduced Quality Circles in 1977. However, the problems with using this approach concluded that it did not exist well with traditional management and required major changes within the company in order to work (Bergstrom, 2012; Lawler & Mohrman, 1987). Quality Circles (Figure 3), however, took approximately five years to reach its peak and then began to decline rapidly with a small resurgence in 1985 (Koenig, 2012).

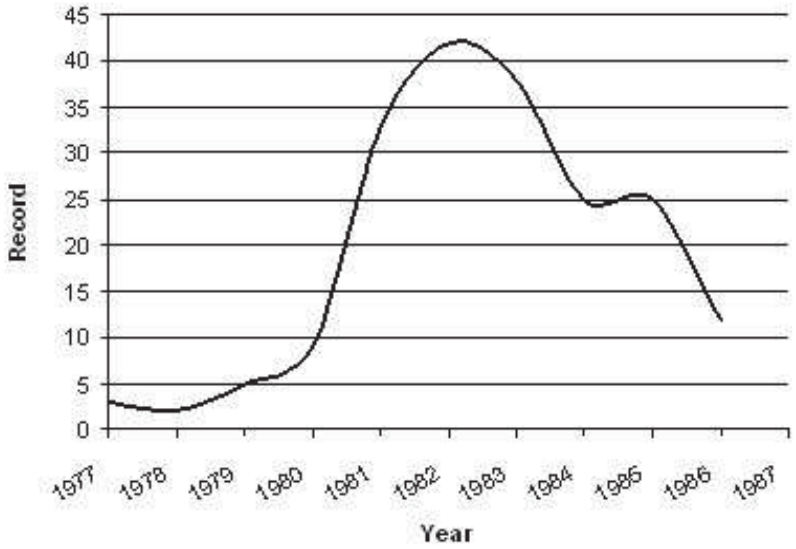


Figure 2. Quality Circles. Koenig, M. E. D. (2012). What is KM? Knowledge management explained. Retrieved from http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx. Reprinted with permission.

Total Quality Management was a systematic approach to improve performance "in terms of quality, productivity, customer satisfaction, and profitability" (Foss & Mahnke, 2011; Sadikoglu & Zehir, 2010). It began to decline in use because it was prepackaged as a solution to work in all companies without taking into consideration that modification must occur in order to fit the precise situational requirements of the particular company, as well as requiring employee input (Sitkin, Sutcliffe, & Schroeder, 1994). Total Quality Management (Figure 4) had reached its peak approximately within three years, and by 1995, it began to decline (Koenig, 2012).

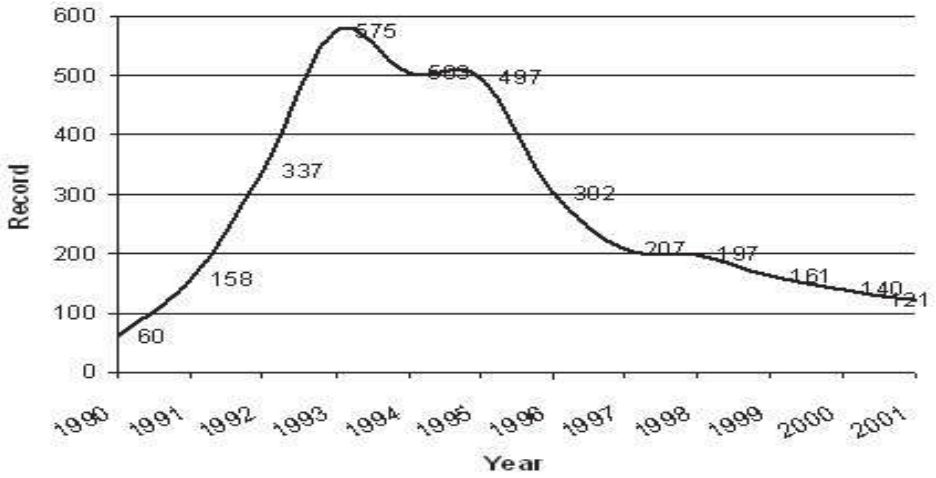


Figure 3. Total Quality Management. Koenig, M. E. D. (2012). What is KM? Knowledge management explained. Retrieved from http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx. Reprinted with permission.

Lastly, Business Process Reengineering (Figure 5) was the deep redesigning of the business' processes that began in the 90s (Chiarini, 2012; Foss & Mahnke, 2011). Considered revolutionary, companies used business process reengineering to improve businesses during the recession, but it began to fail when it was evident that the consideration of the importance of the employees was missing (Chiarini, 2012). Businesses improved only when they considered people important assets for the continuation of the company. Business Process Reengineering took 2 years to gain momentum in the business community; and subsequently peaked three years later in 1995 followed by a decline because of the failure to appreciate the importance of employees.

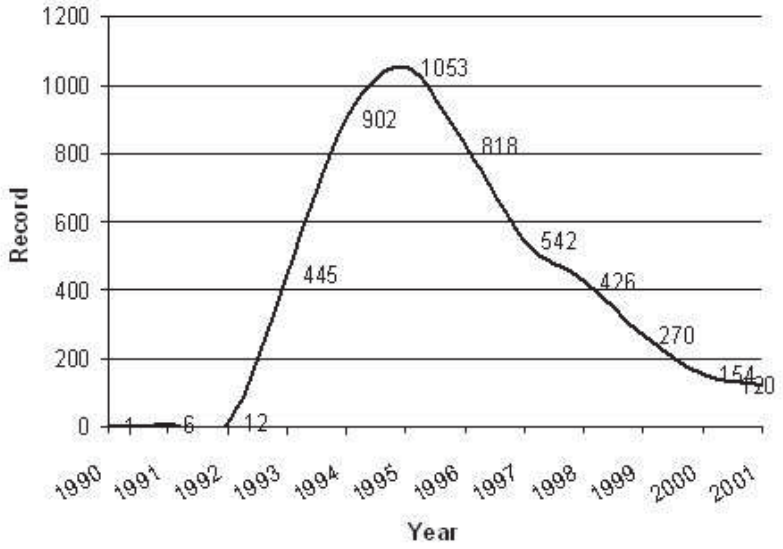


Figure 4. Business Process Reengineering. Koenig, M. E. D. (2012). What is KM? Knowledge management explained. Retrieved from http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx. Reprinted with permission.

Conversely, KM grew in the amount of articles (Figure 6) listed since 2001 indicating that it was not a fad, but a discipline that did offer companies continuous ways to promote growth and innovation (Koenig, 2012). KM provided companies a way to increase, assess, and evaluate their learning, which also promoted growth and innovation throughout those companies. A more recent criticism of KM consisted of the fact that due to the increasing specialization of the field, leading to parallel developments, it caused researchers to lack the knowledge of what was happening elsewhere within the discipline (Easterby-Smith & Lyles, 2011). Lastly, according to Foss & Mahnke (2011):

> Indeed, the underpinnings of knowledge management are a mixed bag, ranging from Eastern philosophical traditions over ideas from organizational behavior to

notions from information science….the knowledge management literature neglects organizational economics at its peril. (para. 2).

Figure 5. Knowledge Management. Koenig, M. E. D. (2012). What is KM? Knowledge management explained. Retrieved from http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx. Reprinted with permission.

According to Koenig (2012) and Schuett (2003), despite the criticisms, KM grew through consultants speaking of knowledge management to their clients. This then prompted companies to begin looking more into the processes and added to the early body of knowledge of what was needed for a successful implementation of knowledge management that started the need for the new role of chief knowledge officer (CKO) (Koenig, 2012; Schuett, 2003). Arguing that KM was a retooling of old information technology caused an increase of the use of holding onto information for future use, while it provided new ways to increase data usage for better decisions and the amount of research (Koenig, 2012). Innovation in the technology sector grew to discover new and

easier ways to ensure that the information and knowledge placed into these systems were retrievable, such as the proliferation of learning management systems (LMSs) to manage the information and data.

The increasing specialization within the field added new avenues to explain and explore how better to lead and facilitate the knowledge workers of today, which led to better and clearer definitions along with better debates to promote the discipline, including the development of new philosophies (Easterby-Smith & Lyles, 2011, p. 2). This led to the realization that 40% of companies' knowledge was in their workforce and that they would take it with them (Schuett, 2003). Therefore, research in KM led to finding new ways to increase engagement, motivation, and in sharing tasks to ensure the best person for the job (or task) was able to contribute to increase productivity and learning (Schuett, 2003).

The increased engagement, motivation, and sharing of knowledge and tasks provided onboarding a framework to use to improve the initial learning, employee engagement, trust, and socialization of new IT hires. The criticisms of KM led to the improvement of the application and continuation of the discipline because it required people to understand and be aware of their own knowledge, capabilities, and roles within the company while being aware of others' knowledge and capabilities. Additionally, it added to the need for onboarding to ensure that new hires were able to learn, engage, trust, be motivated, and share their knowledge.

Strategies for successful implementation. Despite the criticisms, implementation of knowledge management for an organization consisted of many steps

that promoted a cohesive union of the people and the company to encourage innovation (Dataware Technologies, 1998). First, KM started with a top-down approach, beginning with leadership showing the change they wished to see within the company; however, it was not always necessary to implement a change in the culture (Nonaka & Takeuchi, 1995; Rhodes et al., 2008; Schuett, 2003). Secondly, it included a combination of technology decision systems, whether software or hardware, and the inclusion of softer skills – leadership and culture – along with involving the entire company in the implementation. Therefore, once the process began, it was imperative to provide the employees a positive experience to ensure smooth transitions (Albinsson, Curtin, Forsgren, & Wall, n.d.; Lennon & Maurer, 2001; Wong, 2005).

To provide a positive experience and smooth transitions, Atwood (2009) noted the steps to implementing KM entailed first determining the needs of the company, such as understanding where the company was and deciding where the company wanted to be. This step occurred when the company created a knowledge team and realized that it was creating valuable and useful, yet ineffectively used, knowledge. The next step consisted of locating the knowledge resources by identifying "areas of knowledge and [to] locate subject experts, information resources, and documents" already written or for possible sources of information (Atwood, 2009, p. 8). Thirdly, companies would choose the systems that they wished to use to gather and house the existing and newly created information. Fourth, the knowledge team gathered the information from the identified sources and placed the information in whichever formats or databases were necessary. Additionally, the databases or formats chosen for storage were "forwarded to the experts,

authorities, and learning professionals to confirm, correct, or expand" knowledge (Atwood, 2009, p. 8). Once considered accurate, the knowledge team disseminated it to those who would benefit. Lastly, it was necessary to maintain the KM system because the nature of knowledge is to be dynamic and the storage system easily updated to keep up with the ever-changing knowledge (Atwood, 2009).

Sustainability of knowledge management. Once the company implemented KM, it was imperative to discern how to sustain KM and its benefits. This was because without continual sharing, such as communities of practice and collaboration, learning and innovation would cease to exist (Chinowsky & Carrillo, 2007; Koenig, 2012; Patton, 2001). KM, though, was an ongoing process that ensured the continual creation and sharing of ideas, data, and information to promote innovation and better decision makers (Chinowsky & Carrillo, 2007; Patton, 2001). In order to sustain KM, it required buy-in and encouraged constant development, updates, and feedback from customers (when appropriate) and employees (Atwood, 2009). Companies should have current and new employees and customers continually sharing their tacit and explicit knowledge amongst each other in order to ensure access to the data to the right people, at the right time, and in the right language (Koenig, 2012; McElroy, 2002; Milam, 2001; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Petrides, 2011; Sallis & Jones, 2008).

Companies appointed either a CKO, a knowledge management officer (KMO), or a chief learning officer (CLO) whose job it was to maintain vital information, dependability, and momentum of KM efforts. Their jobs included making the most of "the creation, discovery, and dissemination of knowledge" throughout the company to

confirm use, and to confirm learning (Atwood, 2009, p. 68). Since knowledge constantly changes, the information, or data, within the systems must be upgraded regularly "to keep users engaged in contributing to and accessing" the knowledge within the system (Atwood, 2009; p. 67). The KM system must have a maintenance plan while reminding people of its usefulness, for without embedding it into the culture of the company's daily practices, it would not become established (Atwood, 2009). Lastly, companies needed to stay updated on the trends, globalization issues, and techniques learned from the company's outside resources – i.e. their vendors and customers (Bhatt, 2001).

Knowledge management as a learning agent. Although people saw KM as a benefit to the corporate world, the constructs of KM – explicit, tacit, and critical knowledge, as well as its sustainability – were applicable to more than just within the confines of businesses. Due to the everexpanding universe of information pertaining to their chosen fields, faculties of colleges and universities had a limited amount of resources to keep on top of their professional development, while trying to be involved in the reform of k-12 schools (Petrides & Nodine, 2003). KM in training (and in schools – such as higher education, secondary, and primary) would be able to use the framework to increase higher order and critical thinking among their learners and instructors. Although it was not necessarily a widespread term used in the k-12 grades, the applications and conclusions were relevant to the administration and instructors responsible for learning. However, according to Santo (2005) and Sallis and Jones (2008), education should be leading the way of KM and use it within their culture, since they are in the business of building and sharing knowledge.

The benefits of KM and a holistic knowledge management framework allowed learners to receive better instructors that had the necessary expertise (Petrides, 2011; Petrides & Nguyen, 2006). This was because KM continuously encouraged innovation and collaboration to ensure constant learning through assessments and evaluations (Petrides & Nguyen, 2006). KM provided trainers with better online initiatives of learning, shorter learning development cycles, and better access to information in their own languages, thus allowing them to become better facilitators of knowledge (Milam, 2001). Therefore, it helped to get the vital information to the right person when they needed it, allowing employees (and new IT hires) to learn faster. KM was a cycle that included the creation of a knowledge base to learn, the application of new knowledge, and the creation of new knowledge while it reaped rewards other than bonuses or raises, such as acknowledgement, autonomy, and learning (Milam, 2001). However, the effective KM strategies within educational systems, including training and, therefore, onboarding, could increase educational outcomes (Delen & Al-Hawamdeh, 2009; Kane et al., 2009).

KM provided companies with the ability to increase their educational outcomes as well as tap into their intellectual capital (Delen & Al-Hawamdeh, 2009; Kane et al., 2009). Intellectual capital referred to the skills of the workforce and its organization, which was different from human capital that included the availability of those skills, the talent, and the knowledge of people needed to perform daily tasks (Talukdar, 2008). Shehabat et al. (2008) explained intellectual capital as “the economic value of two categories of intangible assets of a company: organizational (‘structural’) capital; and

human capital" (p. 207). van Caenegem (2002), argued that intellectual capital consisted of all the intangible assets within a company, whether legal rights or if they appeared on a balance sheet, such as skills, knowledge, culture, structures (of the organization), learning ability, and technical leadership. Talukdar (2008) also stated that these assets were non-rival, meaning that they could scale with the future needs of the company and determine future profits, although rarely seen or known to the general public (inside and outside of the company). This was because intellectual capital (and consequently human capital) was difficult to measure and quantify because companies never reported these types of capital.

KM therefore, provided a way for universities to be able to give back to their communities because effective KM increased their regional engagement as they were seen "as employers, as sources of technological know-how, and as a source of human capital development for individuals and business" (Brewer & Brewer, 2010, p. 332). However, the rarity and difficulty of imitating people, the intangibles of human capital, was the source of sustainability because companies could not imitate each other's employees (Afiouni, 2007; Chen & Burstein, 2007). Developing the human capital aspect of intellectual capital within the universities would prepare students to enter companies knowing how to succeed in a knowledge economy and encouraged by an environment conducive to creativity and lifelong learning (Brewer & Brewer, 2010).

To create personal and shared knowledge among trainers and learners required using the elements of KM, which included the sharing of knowledge that created better learning (Chinowsky & Carrillo, 2007; Hipp & Huffman, 2007; Wilcox, 1997).

Learning, much like KM, consisted of two categories – adaptive and generative. Adaptive learning entailed the reaction of a company or person, where it remained stagnant until it was forced to change due to a new experience (imposed by actual change in the present), whereas generative learning "enhances our ability to create" and was inspired by the possibilities in the future (Senges as cited in Chinowsky & Carrillo, 2007, p. 123). The disciplines of knowledge-based systems would provide trainers and learners a broader base of knowledge from which to construct new knowledge; however, without onboarding, companies might be unable to train their new trainers and new learners on how to teach or learn respectively (Golubski, 2011; Hipp & Huffman, 2007; Wilcox, 1997).

The UCC provided businesses, educational institutions, and governments the ability to collaborate anywhere at any time in the language best suited to the situation, making their unified communications tool a learning agent (Brewer & Brewer, 2011; Wang, 2012). The unified communications product was an information technology tool that integrated voice, video, and data to collaborate and communicate in real time and was used for KM practices, such as communities of practice (Brewer & Brewer, 2011; Director of IT, personal communication, September 30, 2011). With this tool, it allowed new IT hires the ability to find and connect with subject matter experts, find essential information, and share current knowledge to capitalize on generative learning. This was because the tool provided collaboration among new and current employees, which created and disseminated new knowledge (Chinowsky & Carrillo, 2007). Therefore, the use of assessment and evaluation during onboarding would provide the company the tools

to capture, create, and retain new IT hires' technical knowledge. The UCC and other companies could construct new knowledge, allowing them to grow, innovate (while competing on a global scale), and continue functioning as global enterprises (Hills, 2010; Lelic, 2002; Milam, 2001; Sallis & Jones, 2008).

Onboarding

The construction of new knowledge and the dissemination of that knowledge required the use of onboarding to provide ample learning opportunities for new IT hires. However, it is necessary to explain the differences between orientation and onboarding. Graybill, Carpenter, Offord, Piorun, and Shaffer (2013) and Traynor (2008) explained orientation as a fixed moment in time with an overwhelming amount of information, while onboarding was a process lasting for weeks or months. Hampel and Lamont (2011) further explained onboarding as "a structured process, lasting anywhere between three and six months" (p. xv). Orientation programs were transactional and event-based, lasting usually a day, and were about making sure new IT hires received information; whereas onboarding was a program that provided targeted learning opportunities to accelerate and enhance productivity (DBM & Human Capital Institute, 2011; Foster-Thompson & Beal, 2009; "To Improve Employee," 2010). Therefore, onboarding provided the new hire with the skills, knowledge, attitudes, and techniques required to fit within the company's culture and their roles (Foster-Thompson & Beal, 2009; Johnson, 2010; Nelson, 2011; Rosenheck, 2009). "To Improve Employee" (2010) added that feedback was important to ensure that the onboarding program met the company's and the new hire's needs. Moreover, onboarding was a process that provided new hires more

than just what the company was; it provided them with information about the company (past and future), their roles within the company, and who to go to for help for continuous growth and learning (Traynor, 2008).

Conversely, an orientation consisted of the new hire filling out a huge stack of papers and was more of a one-way flow of information from the company to the new IT hire that focused upon the logistical and tactical aspects of the job (Chapman, 2009). According to Kane et al. (2009), new hires were often at odds when it came to their specific department's duties because orientations focused on all employees and were often standard. Davis and Shannon (2011) and Graybill et al. (2013) argued that the problem with orientations was that they usually lasted one day, providing the bare minimum, leaving all new hires unsure of what they learned (Hampel & Lamont, 2011; Traynor, 2008). Foster-Thompson and Beal (2009) contended that new hires' knowledge of their organization was incomplete, therefore limiting their ability to produce immediate value for the company. Rollag, Parise, and Cross (2005) reasoned that companies should create a comprehensive onboarding process not only to engage the new hire, but also to build trust and the desire for lifelong learning. Onboarding aided in acquiring the knowledge, skills, and behavior required for a person's job and, additionally, allowed the new IT hire the ability to learn and gain confidence in their role (Bauer & Erdogan, 2011). Furthermore, onboarding was a well-planned and tailored approach, not just for new hires, but also for those found in new roles (DBM & Human Capital Institute, 2011; Graybill et al., 2013). Onboarding then became an inexpensive

way to increase morale, productivity, and satisfaction through focused learning (Chapman, 2009; DBM & Human Capital Institute, 2011; Santovec, 2010).

History of onboarding. The term onboarding began in the 1990's, a term reserved to differentiate between the ways executives and managers were prepared as opposed to the lower ranks (who received orientations). Now it encompasses all the different ways to acclimate employees (Foster-Thompson & Beal, 2009; Graybill et al., 2013; Klein & Polin, 2012). However, prior to the 90s, onboarding was known as organizational socialization, which began in the 1970's with the theory developed first by Schein (1971), then further developed by Johnson and Schein (1978) and van Maanen and Schein (1979). Organizational socialization was a term created by social scientists to "refer to the process by which one is taught and learns *the ropes* of a particular organizational role" (van Maanen & Schein, 1979, p. 3). Fundamentally, it was the process where a person gained the knowledge and skills necessary to perform their job. Through this theory, they developed six dimensions to explain how companies socialized their new hires, such as formal-informal, collective-individual, and sequential-variable (Johnson & Schein, 1978; van Maanen & Schein, 1979). From the 1980s on, conceptual development took off in the forms of transitions and information processing perspectives, as well as other studies (Adler & Stomski, 2010).

It was not until the 1990s that scholars began writing most of the literature regarding socialization within companies. Chao, O'Leary-Kelly, Wolf, Klein, and Gardner (1994) discussed organizational socialization (onboarding) as concerned with the learning content and the processes through which a person understood and adjusted to a

specific job or role. Depending upon that role, and the complexities of the role, the process could take many forms, and could appear to be a self-guided process to one that required months of preparation and effort that led to lengthy periods of education and apprenticeship (Chao et al., 1994). It included the learning of cultural affairs and understanding the navigation of routines, actions, and reactions acceptable within the employment setting (Chao et al., 1994; Johnson & Schein, 1978; Schein, 1971, 1990; van Maanen & Schein, 1979).

Schein (1990) explained that the concept of organizational socialization became a new subject of study because researchers wanted to find the reason "why U.S. companies do not perform as well as some of their counterpart companies in other societies" and not simply because of differing cultures (p. 110). Researchers wanted to understand the differences in the levels of effectiveness between organizations within the same society (Schein, 1990) and organizational socialization was the concept that answered their questions. It was comprised of six components: performance proficiency, people, politics, language, organizational goals, values, and history. These components focused on the requisite learning and continued throughout an employee's career as they matured (Chao et al., 1994; Johnson & Schein, 1978; Schein, 1971, 1990; van Maanen & Schein, 1979). A person, then, was engaged in a neverending cycle to learn new information to accomplish their roles at optimum performance (van Maanen & Schein, 1979). In general, this neverending cycle of learning caused socialization to take place with each passage a person took throughout their career, whether it was with the same or another company (Schein, 1971, 1990). More specifically, that same person's career could take

from nine to eighteen months before they were completely able to master the demands of their roles (Foley, 2010; Hampel & Lamont, 2011).

Traynor (2008) argued that it was difficult for new hires to be productive and understand what they needed to learn from Day 1. Specifically, the difficulties that arose for new IT hires occurred because of the isolation, loneliness, and performance anxieties of the role and situation (van Maanen & Schein, 1979). Training could not effectively function within one department, or silo, if learning was imperative to maximize performance (Johnson, 2010; Mortvedt, 2009). By all parties being involved with the process, it provided the person with the knowledge and skills necessary to reduce their anxieties and perform at their best. This was because companies that onboarded the new person offered that person a sense of accomplishment and competence (Adler & Stomski, 2010; Chao et al., 1994; van Maanen & Schein, 1979). Therefore, onboarding reduced the anxieties of new hires by providing "focused learning in an on-the-job setting" (Nelson, 2011, p. 10). In addition, it assessed what the new IT hire knew and did not know, to provide a starting point for training. It also evaluated (formatively and summatively) what the new IT hire learned to modify the program as necessary (Nelson, 2011). These activities allowed companies to move from a skill-based to a knowledge-based economy, and confirmed that new IT hires were able to construct and share knowledge that became retained knowledge (Rothwell & Whiteford, 2011).

Onboarding as a learning agent. Onboarding in education was the process of "acquiring, accommodating, assimilating, and accelerating" (Nelson, 2011, p. 10) new people. Golubski (2011) and Bauer and Erdogan (2011) explained that onboarding could

be used to aid in training people to provide them with the purpose and support to continue learning, ensuring persistence in their finished goals. For example, according to Johnson and Senges (2009), onboarding provided learning to make certain that new IT hires were able to feel comfortable within their given roles by offering peer learning as well as formal learning during the onboarding process. Onboarding then increased the effectiveness and efficiency of learning and learning transfer through creating an environment that mirrored the work situation (Johnson & Senges, 2009).

Golubski (2011) noted that with the socialization of students, specifically those considered nontraditional, onboarding provided them with the knowledge of not only how to navigate through school, but to utilize social tools (such as *Facebook*) to get them acclimated within the environment, rather than leaving them alone and produce higher attrition rates. Therefore, onboarding provided adult students with the knowledge and practice based learning to succeed in their endeavors (Bauer & Erdogan, 2011; Golubski, 2011; Johnson & Senges, 2009; Swanson, 2009).

Onboarding accelerated performance, shortened learning cycles (yet increased learning amounts), facilitated smooth transitions, and increased trust while it enabled better training (Bushardt, Glascoff, & Doty, 2011; Conger & Fishel, 2007; Foster-Thompson & Beal, 2009; Jenkins, 2008; Laal, 2010). According to Rosenheck (2009), that initial learning, or onboarding, worked best when focusing the learning upon multiple cases, scenarios, or job tasks for new IT hires to assess and apply their newly found knowledge. Fadel and Lemke (2008) found that what worked for one particular learning moment might require a collaborative experience, another might require reading

information, or one might require a hands-on-approach until learned. The goal was to "understand that the optimum design depends on the content, context, and the learner" (p. 8). Rhodes et al. (2008) noted that value and innovations derived from the use of knowledge because relational assets facilitated knowledge transfer and competitive advantage. Embedding the practice of KM into the core practices of the UCC and other companies would provide an opening of communication channels into onboarding and other facets of training which "creates multiple learning avenues for employees at critical junctures" (Emelo, 2009, p. 46).

For new IT hires specifically, onboarding provided them with a starting point to be able to work on developing projects. Many IT hires, new or experienced, ran into similar problems due to the millions of lines of code required in development projects, with the stated problems being usually "communication, collaboration, technical difficulties, etc." (Wang, 2012, p. 2). Familiarity with basic coding took great concentration and was essential in order for new IT hires to become comfortable with their routines and procedures (Wang, 2012).

Wang (2012) noted that onboarding remedied the problem of the difficulty in finding the starting point in software or IT development projects. When given the tools, such as early experimentation, new IT hires' knowledge and internalization of structures and cultures, along with progress validation, were able to learn and understand more than when left alone. Using search engines, which required applying keywords to find the answers, limited the available information while it increased the amount of time to do a project (Wang, 2012). According to Johnson and Senges (2009), they noted the necessity

in encouraging new IT hires to find a mentor to speak with so they did not memorize the primary information because information was constantly changing.

Conger and Fishel (2007), Graybill et al. (2013), Hampel and Lamont (2011), and DBM and Human Capital Institute (2011) believed that companies, educational or business, should tailor their onboarding to the specific job and job level (such as student, professor, executive, manager, or associate) to increase learning and productivity. Onboarding was "about communication and expectations, providing clear and thorough information about the job and the organization, while also providing education, tools, and support" (Serbin & Jensen, 2013, p. 96). However, without the assessment of current learning, it was difficult to understand how to tailor the onboarding program, and without evaluation, it was difficult to know if and what new IT hires learned.

Knowledge included at initial employment provided companies the ability to obtain new knowledge and learning, because new IT hires usually could not gauge when the problem was too difficult for them and when they needed help (Wang, 2012, p. 10). Therefore, onboarding should be a personalized experience, by having the new hire plan their onboarding with their manager to bring the new IT hire into the company, providing them with the means to ask for help when needed (Bradt & Tavis, 2010; Platz, 2007). Additionally, it was necessary to assimilate the whole person, not just the set of functions required for the job, to understand how and why they learn, and most importantly provide them with the skills to continue their learning (Adler & Stomski, 2010; Conger & Fishel, 2007; Dunn & Jasinski, 2009; Hampel & Lamont, 2011; Jenkins, 2008; Platz, 2007; "Share baby boomers," 2010).

Barriers to onboarding. One of the barriers to the implementation of onboarding consisted of placing new hires in their job roles without adequate training, hoping they would succeed (Nelson, 2011; Rhodes et al., 2008). Another barrier to onboarding was the missing relationship between the knowledge source and recipient of that knowledge from knowledge sharing (Kane et al., 2009). Within recessions, companies removed training, seeing it as unnecessary to perpetuate the training of new hires (Rothwell & Whiteford, 2011). Scholars, such as Dai et al., (2011), Rollag et al. (2005), and "Share baby boomers" (2010) noted that companies provided an overwhelming amount of information about the company's routines, policies, culture, and technologies within a few hours, leaving IT hires still new with many unanswered questions. Companies usually handed their new hires a thick folder, provided them with a quick tour, and then flew through a presentation ("To Improve Employee," 2010). By not providing the training they needed, the new IT hire was prevented from the necessary growth and learning (Johnson, 2010; Nelson, 2011).

This type of thinking was usually a top-down problem with chief operating officers (CEOs) and managers assuming that new hires knew the expectations of their roles simply from the provided job descriptions and their personal observations (Rhodes et al., 2008). In addition, due to a lack of commitment, managers, and those higher up, did not ensure that new hires were provided an environment for a transfer of learning to take place (Mortvedt, 2009). Without the immediate return on investment, managers, and those above managers – such as directors, vice presidents, and the C suite – ended up believing that onboarding, and training, was needless (Johnson, 2010). As Johnson and

Rothwell and Whiteford (2011) stated, companies should have the ability to look at their current skill sets and know they have the capability to compete globally. Instead, companies looked over their current employees and realized that their skills did not measure up to industries' global skill sets and demands (Johnson, 2010; Rothwell & Whiteford, 2011).

Successful onboarding. Whether during a hiring boom, or a downturned economy, onboarding provided companies with the ability of having their employees become immediately productive, especially in a globalized economy (Foster-Thompson & Beal, 2009). In order to meet those global skill sets and demands, onboarding began with the critical component of design from the new hire's perspective, which was essential when filling roles where there was the greatest need – during slow growth periods (DBM & Human Capital Institute, 2011). This was particularly true for new IT hires since companies placed higher expectations for them (Plunkett, 2010; Wang, 2012). Onboarding focused on the effective, emotional, and efficient transition of the individual, whether coming from outside of the company or within (Bradt & Vonnegut, 2009; Plunkett, 2010).

During the selection process, however, it was also important to confirm a cultural fit (Adler & Stomski, 2010; Plunkett, 2010; Serbin & Jensen, 2013). Cultural fit referred to using the people that had historical knowledge of the company, such as the knowledge of how to complete the work and to mentor and train new hires for immediate productivity (Adler & Stomski, 2010). According to Adler & Stomski, Plunkett, and Serbin and Jensen, cultural fit was addressed through six aspects: (a) dominant

characteristics (focused on results or innovation); (b) organizational leadership (mentor or aggressive); (c) management (teamwork or individual achievement); (d) organizational glue (loyalty or formal structure); (e) strategic emphasis (efficiency and control, innovation, or market domination); and (f) success criteria (definition of success). The cultural fit, or cultural context as described by DBM and Human Capital Institute (2011), was considered the most overlooked, but yet "warrants significant focus" (p. 5). Cultural fit, along with providing clear expectations and understanding of the business' mission and vision were a part of onboarding "best practices" [emphasis added], which included reinforcing the culture, making it a team effort, taking advantage of available technology, and providing new hires with a sense of purpose. This included seeing and understanding the benefits of the onboarding program so they could contribute their talents and skills (Klein & Polin, 2012).

Additionally, successful onboarding involved the implementation of what Adler and Stomski (2010) called the Five Stage Onboarding Process (Figure 1) and what Bradt and Vonnegut (2009) and Plunket (2010) called the "Five A's". Alignment began when management determined that the hiring process needed to start, and specified the specific role. Next, was the step of acquiring, which involved identifying, recruiting, and selecting the right people for joining the company, and more specifically the team (Plunkett, 2010). After acquiring the new IT hire, it was then necessary to accommodate the person with the tools and information needed to do their work. Then came assimilation, where the company arranged for the new IT hire to meet the people of the company, not just the specific ones within their department, but across all functions,

which included (if possible) the CEO (Johnson, 2010, Mortvedt, 2009; Plunkett, 2010; Wang, 2012). Moreover, companies needed to accelerate the person to "help them (and their team) deliver better results faster" (Plunkett, 2010, p. 175). Lastly, companies should know of the importance to ensure follow up, support, and the provision of resources to confirm learning and assimilation (Adler & Stomski, 2010; Bradt & Vonnegut, 2009).

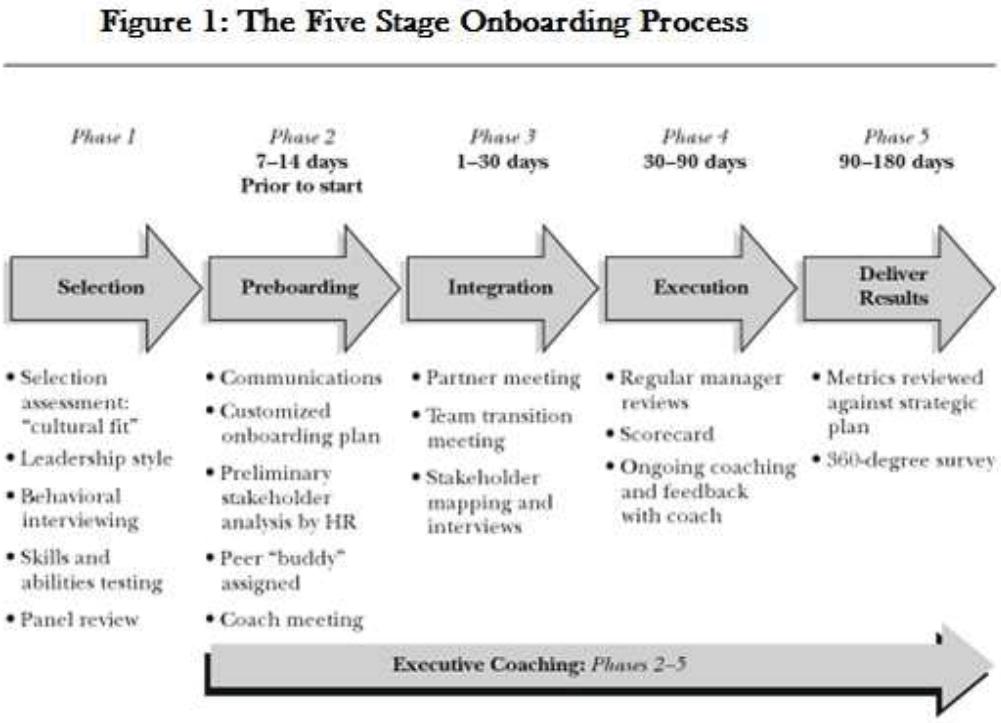


Figure 6. The Five Stage Onboarding Process from Adler and Stomski (2010). © Jossey-Bass. Reprinted with Permission**.**

According to Johnson and Senges (2009), Google's onboarding used the "Five A's" that was considered a best standard of practice for onboarding new IT hires. Google provided their new IT hires with a systematic process, beginning with recruitment and

selection. During the recruitment and selection process and once selected, the newly hired IT employees went through a "two-week face-to-face training and orientation" (Johnson & Senges, 2009, p. 183). Within the training and orientation, the company provided their new IT hires with the knowledge of their roles' expectations (an essential part), HR practices, an overview of the fundamental technologies, and the programming practices. Additionally, this was where new IT staff received lectures from senior IT employees. The senior workers were those who knew the programming language and could establish rapport. During the lectures, new IT hires learned to become productive Google employees and to navigate through the available intranet resources. After the lectures, new IT hires had extensive online training that was "embedded into the internal network of virtual institutions and personal and team pages" (Johnson & Senges, 2009, p. 184). The materials presented consisted of a standard checklist that allowed the new IT hires to explore, step-by-step, the different systems, practices, events, and instructions. Next, came hands-on tutorials, called codelabs, to provide systematic directions from the first week, and beyond, followed by codewalks to ensure learning in a real code base, in real time. Afterwards, Google's new IT hires were encouraged to find mentors, who were senior engineers, for a 3-month period along with a list of veteran IT employees to collaborate with on projects. Johnson and Senges (2009) added to the last step, which included combining the assignment of a starter project along with providing practice based learning (p. 186).

Onboarding components. In order for these steps to work in an onboarding program, it was important to ensure that the components of onboarding were a part of the

program. The components of onboarding, which included mentoring, socialization, trust, and engagement, provided companies with the ability to confirm learning and learning retention. They provided learning and learning retention through offering newly hired IT staff the ability to find ways to learn and find new information for immediate productivity (Serbin & Jensen, 2013).

Mentoring. Mentoring was one component that provided new hires with the opportunity to learn from more experienced people (Graybill et al., 2013; Hyatt, 2009; Jenkins, 2008; Williams, Scandura, & Gavin, 2009). It allowed those who were new to learn and understand their roles and responsibilities of the company. Mentoring provided knowledge and helped the new hire gain the skills required for success, allowing the new hire to become a mentor (Thompson, Jeffries, & Topping, 2010). Moreover, mentoring provided the new hire with engagement, and provided the mentor with a sense of renewed purpose and commitment, as well as the readiness and understanding of the new hires' depth of talent (Schreiner & Black, 2010; Williams, 2010). Furthermore, companies that included mentoring had employees with increased skills, innovative knowledge, and were willing to share and learn new knowledge – increasing knowledge retention (Hyatt, 2009). This then fueled a continuous learning cycle to transmit both tacit and explicit knowledge, causing more learning to take place (Bushardt et al., 2011; Chinowsky & Carrillo, 2007; Crocitto, Sullivan, & Carraher, 2005; Delen & Al-Hawamdeh, 2009; Skyrme, 2011).

Saks and Gruman (2011) and Whitaker (2009) asserted the importance of providing new hires with the opportunity to share their knowledge and access to mentors.

Not just at the onset of employment, but throughout their tenure for growth and acculturation. Mentoring could prepare the new hire for stepping into a new role as the need dictated, and could provide interdepartmental communication because "this helps with the sharing of ideas and experiences across departmental lines within a given company" (Schreiner & Black, 2010, p. 82). It showed their new hires that the company was vested in their future leaders by providing them with recognition and support through mentoring. Schreiner and Black (2010) stated that mentored new hires and employees reported greater satisfaction with their learning.

In addition, mentoring provided companies with the ability to retain their new IT hires (Schreiner & Black, 2010). Cross et al. (2007) further contended that it was important to have new hires *shadow* [emphasis in original] current employees to understand the processes of their specific job roles (p. 356). Mentoring allowed the company to provide their new hires with rapid assimilation while their new hires provided immediate productivity. Moreover, mentoring provided new hires with the ability to perform efficiently, effectively, and independently sooner without extra outside support (Schreiner & Black, 2010). New staff should be trained within the first few weeks, not months, to set both the new hires' and manager's expectations. Thus, as "Share baby boomers" (2010) speculated, the information gathered for the onboarding program should be cyclical in nature with both the mentor and mentee continuously learning from each other.

Socialization. Another component included in onboarding was socialization. Socialization becomes necessary because new hires spend so much time worrying about

selling themselves that they do not always research the role or company; hence, many will leave within the first few weeks (Davis & Shannon, 2011). Socialization, as noted by van Maanen and Schein (1979), reduced the anxiety that many new people felt the first few days on the job. For example, the difference between the companies with high performers and those with subpar performers was that the high performing companies had onboarding processes (Wolf, 2008). This was because, according to Bradt & Vonnegut (2009), "onboarding helps to build, sustain, and perpetuate high-performing teams" (p. 3). Their processes included leadership taking the time to meet with new hires (often and early), working with new hires, and providing a solid understanding of the focus being on learning and development to inspire collaboration (Wolf, 2008). Companies should schedule the first day of onboarding when the new hire's boss was around so that they could feel important and socialized while receiving a tour of the office (Giacalone, 2009). Therefore, the reasoning behind investing in new hires was that onboarding was about responding, rewarding, assessing, evaluating, and socializing new hires into the company's culture. Hampel and Lamont (2011) discussed onboarding as an experience that should be customized and consistent; yet, also provide functional and role specific information in a just-in-time model through blended learning.

Saks and Gruman (2011) indicated that companies needed to socialize new hires to create positive emotions, develop a better job fit, increase learning, and promote self-efficacy. If a company provided the new hire with 10 people, it would give them an immediate network with which to connect and obtain necessary key answers while learning from multiple people (Cross et al., 2007; Foster-Thompson & Beal, 2009).

Introducing new employees to those they would work with and others within the company was necessary (Cross et al., 2007); however, it was also essential to provide them with more than the explanations of their roles and responsibilities (Bradt & Tavis, 2010; Giacalone, 2009).

To provide learners with more than the explanations of their roles and responsibilities, it was important to ensure that socialization took place. Nifadkar (2009) stated that "social anxiety – the state of being hesitant if not fearful about social interactions and communication – is likely to hinder learning and information acquisition and hence impair newcomer adjustment" (p. 72) because social interaction promoted information gathering and learning. Adults learned best when they were relaxed, felt respected, and when their learning related to their life experiences. Additionally, through socialization (be it face-to-face or through networks), learners were able to compare, visualize, learn something new, and generate different ways of looking at problems while driving innovation and value creation (Schaffer, Funk, & Cothrel, 2002). This initial stage was where new hires would either become socialized, fall into the "old ways of thinking" (Rollag et. al., 2005, p. 36), or "simply repeat old practices" (Garvin, 1993, p. 1).

Trust. Trust was the first aspect of learning and another component of onboarding that allowed the newly hired staff to accept mentoring and socialization (Kaser & Halbert, 2009). Without a trust of the program and of the trainer, the learner would not be willing to listen or comprehend what was being taught (Hermans, 2010). Trust, however, was what permitted people to share their knowledge and allowed

themselves to learn more. With the addition of trust, employees generally were more innovative due to their increased learning (Hermans, 2010; Kaser & Halbert, 2009).

Kaser and Halbert (2009) explained trust as the notion that certain people were consistent, reliable, open, competent, benevolent, and honest. Those attributes combined to increase learning because the learner believed that their learning and their success was important to the trainer (Kaser & Halbert, 2009). Therefore, it was important to note that collaboration, knowledge building, sharing, and learning did not take place without trust, for people become afraid of sharing what they know. Trust of the program and/or trainer created the environment that enabled successful training, and provided the foundation for lifelong learning (Mason & Lefrere, 2003).

Onboarding bestowed upon people the opportunity to cultivate the relationship between any business and its new hires to build that trust (Traynor, 2008). Therefore, trust removed the need for bureaucratic red tape, enabling smoother transitions into the workplace while enabling companies to remain competitive throughout economic globalization (Yung, 2009). Trust created open communications, increased sociability, and productivity while increasing lifelong learning (Hermans, 2010). When facilitation and trust were at its highest levels, people were willing to learn and share, thus increasing each other's learning. However, companies lost learning and trust when facilitation did not foster collaboration and engagement (Hermans, 2010).

Engagement. Building trust included engaging new IT hires and the way to assimilate and promote learning was through engagement (Saks & Gruman, 2011). Engagement aided the person (new IT hire) in employing and expressing "themselves

physically, cognitively, and emotionally during role performances" (Kahn as cited in Saks & Gruman, 2011, p. 385) with rather dramatic benefits. Engagement allowed new IT hires to increase their learning ability when people were expressively, actually, and mentally present (Nifadkar, 2009; Saks & Gruman, 2011; Wolf, 2008). Because of engagement, companies saw a 52% gap in their 1-year performance improvements of their operating income compared to those companies without (Bhatnagar, 2007). Those engaged new hires were also more likely to participate in sharing knowledge, which increased learning.

Moreover, onboarded and engaged new hires had a 20% better performance rating and were 87% less likely to resign (Bhatnagar, 2007; Graybill et al., 2013; Wolf, 2008). Thus, confirming engagement at the onset of onboarding ensured vested new IT hires in the company while the company showed they were vested in their new IT staff. This investment in employees sparked an interest in lifelong learning and knowledge sharing, because new hires were present (Berggren & Bernshteyn, 2011; Bhatnagar, 2007).

Engagement, then, created an environment that continued the learning cycle and created a learning atmosphere for future new employees (Bushardt et al., 2011). Hampel and Lamont (2011) and Saks and Gruman (2011) noted that new hires' engagement was at its highest level at the onset of employment, and effective onboarding utilized that engagement and built upon it. Therefore, one can assume that engaged new IT hires, along with socialization, mentoring, and formation of trust, would increase learning.

Alternatives to onboarding for learning. Although onboarding provided learning, there were other ways to ensure that the company met their training needs, such

as on-the-job training, informal learning through social networks, or virtual training through virtual worlds. However, those types of training would fit within an onboarding program as aspects of ensuring the accommodation of new staff with socialization and practice.

On-the-job training. One alternative to onboarding included on-the-job training. According to Laxton and Applebee (2010), knowledge resided in practice and within that practice resided new knowledge. With on-the-job training, new hires were paired with more seasoned employees, or subject matter experts (SMEs), that went through a physical or mental checklist to train the new hire. In some cases of on-the-job training, a management person conducted the training, and then paired the new hire with a seasoned employee for mentoring (Banville, 2011). Within this environment, the new hire was socialized with their new co-workers and shadowed SMEs while performing some of the duties under the SMEs' supervision. With the new employee under direction, it allowed them the opportunity to ask questions and learn while performing the job's tasks. In addition, it reinforced previous learning through the application of repetition and practice. According to Banville (2011) and Serbin and Jensen (2013), companies liked using this method because it provided the company with immediate productivity from new employees.

Social networks. Social networks provided people with another alternative to creating onboarding programs. Using social networks, such as *Facebook*, afforded people the ability to share and obtain a diverse amount of information from differing perspectives and it is considered a tool that fostered teamwork and cooperation (Kane et

al., 2009). Social networks encouraged people to become friends with a wider audience while allowing them to stay close to their family and friends, therefore increasing their networks and networking skills (Kane et al., 2009; Yu, Tian, Vogel, & Kwok, 2010).

The implications through learning, however, showed that social networks provided learners with an outlet to share their frustrations, which led to "better health, affective development, and academic success" (Yu et al., 2010, p. 1500). In addition, Yu, Tian, Vogel, and Kwok (2010) argued that the utilization of social networks, along with learning, increased the skills through acceptance and acculturation to allow the learners to articulate and understand their roles within the learning environment. According to Mills (2011), "social networks offer[ed] opportunities for the exchange of rich multimedia information, microcontent of digestible length, collaboration, synchronous and asynchronous communication, social interaction, and personalization" (p. 347). This was because social networks provided learners with continuous learning and navigation of knowledge, along with the creation of content from which others could learn (Mills, 2011).

Virtual Worlds. Although virtual worlds have similar platforms as social networks, in that virtual worlds provide users with socialization and learning, yet, there are differences. Virtual worlds have become a tool for providing learning to people in a different way than those traditional methods of elearning or blended learning (Condic, 2009). One virtual world frequently used for learning was Second Life. According to Condic, Second Life is an eLearning application that allowed people to meet with other students, mentors/teachers, and find other collaborative and supplemental tools. Students

or learners entered into the world and through role-playing, learned about their jobs, their responsibilities, or mimicked different scenarios (Condic, 2009). This was an important tool because people were immediately able to apply their newly acquired skills in a safe environment while confirming learning retention. People could create worlds that were specific to scenarios, such as hospital operating rooms, librarians interacting with students, and presentations. For example, with Second Life, companies created different models within their own virtual worlds to analyze construction, customer issues, or safety issues within a controlled and safe environment (Condic, 2009).

Implications

Onboarding offered companies' ways to train their new IT hires and increase productivity. This provision of training represented the ongoing efforts on the companies' part to support their employees' productivity. However, without the use of performance support, the transfer of learning was smaller, making training irrelevant. With performance, or learning support, people increased their performance and productivity by doing and having a support system that provided them with immediate information when needed. IT hires needed to understand certain coding procedures, development bases, ways to work with customers, and/or ways to become up to speed within a critical, time sensitive project. Training new people to perform their jobs and to ensure immediate productivity (without losing the information learned) required a lot of material, and trying to expect the new IT hire to remember all of their training, along with everything else, was difficult and unrealistic.

Performance support was a way to provide needed information, processes, and perspectives to inform and guide plans and actions, for a quick refresher or during difficult tasks that did not leave room for ambiguity. A type of performance support tool would be job aids that enhanced performance by providing information useful before, during, and after training or challenges (Tilaro & Rossett, 1993). Job aids provisioned new IT hires with the information needed when dealing with customers or creating development projects, without compromising productivity. Therefore, job aids would support the new IT hires' performance and training to ensure learning retention and would provide a quick refresher of information to get tasks done when needed, even when the task had been performed many times (Gladney, 2011; Rossett & Schafer, 2007).

Without the use of memorization, job aids provided new IT hires, in addition to onboarding, a brief guide that would enable them to remember specific information tailored to their roles within the company. The goal of this project was to offer a brief and noncostly way to obtain and disseminate information to the new IT hire. Job aids would provide brief information to people, whether new or seasoned, to be able to navigate their learning when time was of the essence and to enhance performance while guiding and increasing confidence.

Summary

This section introduced the problem of a lack of assessment and evaluation (that onboarding provided) of the employees at the UCC. Without onboarding programs, companies might not be able to deliver adequate initial training through quick orientation programs, losing their students, as well as their new hires. Onboarding was the first

introduction into training to educate new hires on their roles, while providing an understanding of the company and culture to continue the learning cycle. However, without assessing current knowledge and evaluating learned knowledge, it would become burdensome to tailor the onboarding program as well as to know if and what new IT hires learned.

The rationale for exploring this problem was that companies, education or business, and their employees, would benefit from the assessment and evaluation of current and expected learning to increase learning and productivity. The research questions aimed to discover what new IT hires needed to know, based on current knowledge, through the theoretical framework of KM. The results of this study led to the development of a job aid to help increase the learning and learning retention of the new IT hires.

Section 2 is a description of the qualitative methodology used within this study. Included as well are explanations of the research methodology, the methodology rationale and approach, the data collection and analysis, quality measures, the researcher's role, and the findings. Included in the findings, is a discussion on the limitations, delimitations, and assumptions of the study. Section 3 is a discussion of the project (Appendix A), a job aid, that was the best solution based on the findings, as well as the benefits and different types of job aids available. Finally, in Section 4, there will be a reflection and conclusion of the study.

Section 2: The Methodology

Introduction

The purpose of this qualitative instrumental case study was to examine how to increase technical knowledge in the absence of onboarding assessments and evaluations, the specific learning required, and the best ways to retain and increase knowledge for new IT hires at the UCC. Within the literature, information was lacking on missing onboarding as well as the ways available to assess and evaluate new IT hires' technical knowledge (Batcheller, 2011). The research methodology comprised of a qualitative instrumental case study with interviews, surveys, and documentation to explore the educational issue of missing assessments and evaluations.

Case Study Research Design

The primary focus of this research study was the lack of assessment, evaluation, and onboarding at the UCC, as the contributing factors of the onboarding process to ensure learning and learning retention. The results of the study added to the knowledge base of onboarding research and its links to learning and the knowledge management framework. This study was a single, holistic (which included all parts of the study on onboarding), particularistic (focused upon the specific program of onboarding), instrumental case study of new IT hires' learning at the UCC based upon the experiences of former IT employees (Merriam, 2009). The specific topic of learning was the unit of interest investigated as an individual case, rather than the methods performed, that defined this research project as a case study (Stake, 2005). Moreover, case studies are an inquiry focusing on a current issue (or phenomenon) within a real life context (Merriam,

2009) and are “an in-depth exploration of a bounded system based on extensive data collection” (Creswell, 2012, p. 465).

Case studies did not lay claim to any particular method for data collection (Merriam, 2009), nor did case studies employ a specific type of evidence and used qualitative, quantitative, or both (Yin, 1981). Case studies were chosen “precisely because researchers are interested in insight, discovery, and interpretation rather than hypothesis testing” (Merriam, 2009, p. 42). Additionally, researchers selected case studies because the case was unique and could reveal more about a phenomenon than experiments, since experiments remove “infrequent, nonobvious, or counterintuitive” data that case studies kept (Merriam, 2009, p. 46). The use of a case study provided more knowledge about the issue of the lack of assessment and evaluation of the current and expected knowledge of new IT hires that would otherwise be unknown.

There are, however, multiple types of case studies, such as intrinsic, instrumental, and collective, which ranged from simple to complex (Creswell, 2012; Stake, 2005). An intrinsic case study was where the case itself was of interest, was unusual, or had distinction in and of itself (Creswell, 2009, 2012; Merriam, 2009; Stake, 2005). An instrumental case study elucidated a particular issue or researchers used it to “redraw a generalization” (Stake, 2005, p. 445). Lastly, a collective case study (also known as multicase or cross-case), in which numerous cases are described and compared, explicated an issue and proposed generalizations (Creswell, 2009, 2012; Merriam, 2009). Case studies facilitate the development of deeper understandings of a single individual,

group, event, or situation and provide credibility through the process of triangulating the data (Stake, 2005).

Qualitative methods, such as this case study, fall within the research paradigm of postpositivist. This study fit within the postpositivist paradigm because it focused on the former IT employees from the UCC to learn more about what new IT hires needed, and to understand as much of their reality as possible through objective research required making sense of the bounded system (Hatch, 2002). "The case study produces the type of context-dependent knowledge that research on learning shows to be necessary to allow people to develop from rule-based beginners to virtuoso experts" (Flyvbjerg, 2006, p. 221). Additionally, this case study concentrated on a particular situation, the lack of assessment and evaluation within an onboarding program, which was an instance of the current process for new IT hires (Merriam, 2009). Therefore, the use of a case study provided more insight into what new IT hires' needed based upon the perspectives of the former employees' experiences at the UCC when new IT hires' learning had not been assessed or evaluated to capitalize upon their knowledge.

Rationale for Case Study

A case study was selected because this study focused upon the lack of assessment of current knowledge and the evaluation of new knowledge of new IT hires. According to Stake (2005), the study of education, the focus on specific issues, or the focus upon people and programs were the defining parameters of a case study. "Social science has not succeeded in producing general, context-independent theory and, thus, has in the final

instance nothing else to offer than concrete, context-dependent knowledge. And the case study is especially well suited to produce this knowledge" (Flyvbjerg, 2006, p. 223).

This study was concentrated upon education from the specific issue of the lack of evaluation and assessment (and onboarding) and converged upon a specific group of people – new IT hires from former IT employees' perspectives based upon their experiences at the UCC. Therefore, the foci were on the lack of assessment, evaluation (and onboarding), as well as of new IT hires fit within the criteria of a case study. The inclusion of the lack of assessment, as well as the lack of evaluation, and with the focus on new IT hires would contribute to the proliferation, creation, and retention of technological knowledge. Furthermore, the purpose was to add to the body of knowledge about onboarding and the theoretical framework of KM. Precisely, this study was conducted in order to learn about the lack of assessing and evaluating learning of new IT hires provided through onboarding within the bounded context of former IT employees from the UCC (Glesne, 2011; Lodico, Spaulding, & Voegtle, 2010; Merriam, 2009). Yin (2009) noted that having a narrow selection helped to contribute to the knowledge of the bounded system, while retaining the "holistic and meaningful" (p. 4) characteristics of the phenomenon studied. Based on this research, an instrumental case study was the appropriate design because it facilitated the illumination of an issue to provide a deeper understanding of the occurrence (Creswell, 2009, 2012; Merriam, 2009; Stake, 2005; Yin, 2009). The choice of using the UCC was because over the course of 12 years, the company had become a major player in the market for telecommunications and

considered an innovator of unified communications, which brought collaboration and efficiency to companies of any size.

There are other kinds of qualitative research methods, many of which sometimes overlap. Case studies were centered on the *how* and *what* of the study, whereas other types were centralized upon the methods (Creswell, 2009, 2012; Glesne, 2011; Lodico et al., 2010; Merriam, 2009; Stake, 2005; Yin, 1981, 2009). Phenomenology consists of a specific experience, or collection of experiences that included the ways it was transformed into people's consciousness. Critical research challenges, critiques, or transforms and empowers society (Lodico et al., 2010; Merriam, 2009). Ethnography studies a culture's beliefs, values, attitudes, and society as a whole. Grounded theory centers on meanings, observations, and thoughts that emerge from the data results to build a theory. Narrative designs use the content of stories as data, providing first person accounts of an experience with a beginning, a middle, and an end (Creswell, 2012; Lodico et al., 2010; Merriam, 2009). Whereas, experimental approaches control for different outcomes of a study, predict similar events, and force the separation of the phenomenon from the context within which it resided (Yin, 1981). Although all these methods could be used in conjunction with case studies, it was the unit of analysis, not the method, which drove the decision (Hatch, 2002). With case studies, since context is an important aspect of the study, there would be too many variables to control and account for within the amount of observations made, and thus standard experimental and survey designs would be irrelevant (Yin, 1981). This study was about uncovering the

meaning behind assessment and evaluation while increasing technical knowledge from new IT hires without onboarding.

Strengths and Weaknesses

According to researchers, case studies have their strengths and weaknesses that included problems from issues of generalizability (Flyvbjerg, 2006; Merriam, 2009; Noor, 2008; Siggelkow, 2007; Yin, 2009). Merriam noted this was because case studies focused upon a single instance or unit and had small sample sizes, thereby limiting generalization to the larger population. Many of the reasons for choosing a case study were the reasons presented as its limitations, essentially the lack of funds, time, number of participants, or considered too lengthy and detailed (Merriam, 2009; Yin, 2009). However, through that single unit or instance of a case study, it was possible to learn more and to create a clear and intense portrait that provided readers with contextual applicability, such as a prototype (Merriam, 2009).

Siggelkow (2007) argued that many viewed case studies as weak because of the bias of the sample cases; however, those cases provided great learning for the improvement of practice in education, evaluation of programs, and for making policies (Merriam, 2009). Noor (2008) contended that others viewed case studies as lacking scientific rigor. Research investigators viewed case studies as such because of disordered investigators, or biased views clouding their findings or conclusions due to the unavailability of methodological texts providing specific procedures to follow (Yin, 2009).

> ‘You cannot generalize from a single case,’ some would say, ‘and social science is about generalizing.’ Others would argue that the case study may be well suited for pilot studies but not for full-fledged research schemes. Others again would comment that the case study is subjective, giving too much scope for the researcher’s own interpretations. Thus, the validity of case studies would be wanting, they argued. (Flyvbjerg, 2006, p. 219)

Conversely, case studies required triangulation of data from multiple data sources inclusive of extensive notes, interviews, surveys, content analysis of documents et cetera while reconstructing the knowledge for the reader (Stake, 2005). In addition, critics mentioned case studies were limited by the researcher’s understanding and truthfulness; yet, case studies provided the consumer with thick, rich descriptions that explained and showed the differences for the reader and public. Case studies included what could not be discounted; they did not simplify, and did it philosophically, epistemologically, methodologically, and humanly without the need for manipulations of applicable behaviors (Merriam, 2009, p.52; Yin, 2009).

Research Questions

According to Yin (2009), the more a research question asked the *how* or *why* a social, technical, or educational phenomenon worked, the more aligned it was with using case study research. In addition, case studies required and provided a more in-depth understanding of the phenomena studied. This was because how and why questions allowed for the exploration of explicit phenomenon (Yin, 2009). One of this study’s guiding questions included asking how statements to explore by using a case study on

how the UCC assessed and increased their technical knowledge of new IT hires without onboarding. The other guiding question explored how the UCC taught new IT hires their culture without onboarding to ensure that adequate learning and learning retention took place. Accordingly, the subquestions helped to explore more deeply the phenomenon of missing onboarding (along with the assessments and evaluations). This included asking for ways the UCC could have used onboarding to assess and evaluate current and future knowledge, the ways that they presented the information, and the location of the information (ease of access). These questions were explored from the perspectives' of the former IT employees to identify the factors that contributed to what new IT hires needed in order to learn and grow; in addition, provided an understanding of the learning at the UCC.

Participants

The participant criteria consisted of former IT employees from the company using purposeful sampling. The use of purposeful sampling in qualitative studies guaranteed that the participant pool would have the characteristics of what the phenomenon studied required (Lodico et al., 2010; Miles & Huberman, 1994). To ensure a rich description and understanding, I obtained a list of 10 people. Out of that list, I randomly selected five participants, and out of those five participants, one decided against participating in the study leaving me with four participants. However, having the four participants confirmed that there was an in depth depiction of the research site because adding more participants or sites would have caused a diminished vibrant picture (Creswell, 2012; Miles & Huberman, 1994). Because the qualitative case study research did not require

large populations and did not generalize to a larger population, it made using random sampling irrelevant. The use of random sampling would have caused a highly biased participant pool with which to work (Creswell, 2009, 2012; Lodico et al., 2010; Merriam, 2009; Miles & Huberman, 1994).

There were multiple ways to discern a reasonable criteria selection of participants within purposeful sampling (Glesne, 2011; Miles & Huberman, 1994). The selection of the participants entailed a maximum variation sampling of the people who worked in the IT department from varying backgrounds, such as programmers, technical support, and networkers. In order to understand what new IT hires needed to be successful, the participants were comprised of former IT employees from the UCC's IT department. Additionally, to gain access to the participants for the study, a former employee provided me with the names and numbers to contact the participants in order to begin the data collection. I contacted the possible participants of the study through email using their preferred email addresses. Interviews were conducted through my Skype account (and over their landlines) or in person and were recorded once I obtained permission from the IRB (IRB approval number 02-08-13-0189050).

To ensure protection of participants' privacy, I advised the participants to use an email address and phone number that was different from their former company emails and office phones. This was to ensure that the data collected could not be used by their former employers against them, protected participants from possible retaliation from the company, and aided them in providing honest answers to the surveys and interview questions. My contact with the participants, provided me with a listing of email

addresses and names of all those who were from the IT department and had knowledge of the practices of the company in addition to what new IT hires needed for learning improvement. From that list, I randomly selected and de-identified the participants to ensure confidentiality for the participants from their former, or current, employers and ensured confidentiality and protection from harm. To select participants for the study, I assigned the list of people numbers, and from those numbers picked every other person. The potential participants were emailed (Appendix B) with specific details of the study, the information to be gathered from the study, that their participation was voluntary, and lastly, to request their consent to participate (Glesne, 2011; Hatch, 2002; Yin, 2009).

In addition, all the participants were provided with an email introduction on how I was going to conduct the study and what was expected of them for the purposes of the study, reminding them of voluntary participation. This introduction confirmed that all participants understood the study and to ask questions of me to confirm their comfort. The initial round of data gathering consisted of collecting their journals to engage them in the study's data collection and used it to build a relationship with the participants. Additionally, the participants were asked to keep a daily journal for approximately 2 weeks (Appendix C). The journaling entailed the participants writing their thoughts about what information would be beneficial to have known prior to beginning their former roles or specific projects while they were IT professionals with the UCC. These journals provided information on the need for better communication among the company, the manager, and the employee.

After review of the journals, the participants were asked to participate in an open-ended survey (Appendix D) that was validated and proven reliable through piloting prior to collecting data. The piloting of the survey consisted of four IT experts from different backgrounds to assess and provide feedback on the questions. The survey questions came from a combination of the guiding research questions, a preexisting survey (retrieved permission from J. M. Nelson, 2011, Appendix F), and a continuation of the journal prompt. This second round of data collection consisted of gathering the data from the survey participants and lasted 2 weeks. The 2 weeks for the collection of the survey data included time to send out survey requests and to wait for the initial feedback from the participants. Then, after the 2 weeks, another 2 weeks for sending out reminders for the participants to complete their surveys and for questions or clarifications that they had during this round of data collection.

In addition to the 6 weeks for the journaling and survey, there was another 2 weeks to conduct the in person and over Skype interviews with the participants, to ensure that each person was interviewed for the study (Appendix E). This was followed by another 2 weeks for following up with the participants, which included member checking, and for asking any new questions that arose from the data analysis of the interviews, surveys, and journals. During this round, through emails and phone calls, I discussed with participants their concerns or comments of how the study was progressing (Hatch, 2002).

Ethical Treatment

Before conducting research, I obtained approval from the IRB prior to asking the participants to participate within the study. To protect the participants and keep the collected data safe, I used password-protected databases that resided on my personal desktop and laptop computers, both of which were password protected. Moreover, the data collected was backed up on an external hard drive and thumb drive that was password protected to ensure the availability of the data for review. Participants' names were masked and, as such, were referred to as Participant #1-4 to safeguard confidentiality in the event of reviews. Participants were over 18 years of age and asked to sign informed consent forms (Appendix B) confirming that they understood their right to refusal at any time and at any point within the study, including the understanding that this study was voluntary. To protect the confidentiality between the participants, they were asked to refrain from discussing the study with each other. This was to ensure that each person that participated did not disclose the identities or the responses of the other participants. During the interview process, participants were permitted to use pseudonyms to protect their identity; however, the participants did not use pseudonyms and are referred to as Participant #1-4 throughout this section. Furthermore, to protect the participants' privacy, I saved the emails to the hard drives of my computers, printed out those emails on my personal printer and placed them in my desk in a locked filing cabinet, and then deleted the emails.

Role of Researcher

I was a former IT employee at the UCC and did not hold a supervisory potion. Having been an IT professional working on programs, databases, and networks provided me insight into one of the roles of an IT person at the UCC. Having worked at the company and used their self-service tools would be a possible bias on my part; however, I took careful notes during the data collection to explain my possible bias with the current tools. My role with the tools was strictly to find necessary training and information pertaining to HR work. Since this study was with former IT employees from the UCC on onboarding, learning, and new IT hires, I noted the biases from the former IT employees, such as whether they left voluntarily or involuntarily, along with their attitudes and thoughts towards the company.

By explaining my experiences with the tools (which were neutral), I provided objectivity by keeping in mind my own thoughts and feelings, through notes, to share any possible biases of the researcher and the participants. In addition, the answers found from the data were checked for objectivity, even if it was contradictory, of which there was none (Hatch, 2002; Yin, 2009). Within my current role as a learning manager, I maintained friendly relationships with other former employees from different departments. Those relationships with the former employees of the company, and having had a shared experience with the participants in using the self-service tools, helped to establish rapport and formed a positive research experience.

A vital part of a good research design was thinking through and describing the relationships between the researcher and participants (Hatch, 2002). These types of

relationships can take time and energy and do not always go smoothly. Being unknown to the participants caused, at first, problems with gaining true and accurate information from them because the participants did not understand how to be studied, or the data collection processes (Hatch, 2002; Yin, 2009). To aid in the participants' understanding of the study's processes and to answer the questions that arose, I broke the data collection into three rounds to provide the participants time to acquaint themselves with the procedures. I explained the study's methods slowly and completely, and during the study, the participants became comfortable with my presence. This entailed establishing that they understood that participation was voluntary and that they could refuse to participate during the study at any given time. In addition, I implemented the data collection in increments to allow the participants "to become familiar and comfortable with the process" (Hatch, 2002, p. 52), such as having multiple rounds of data collection. Moreover, I explained what the study was, the length of the study, when the study started and ended, what the participants needed to do to prepare (which was to sign the informed consent form), and what they could or could not say to others about the project (Hatch, 2002; Yin, 2009).

Data Collection

Successfully conducting a qualitative case study required gathering multiple types of data. There were three rounds of data collection to find out the answers to the study questions of how to assess and evaluate learning in order to increase technical knowledge of new IT hires without onboarding. The collections of data began with a document review for content analysis to gain a background explaining what new IT hires needed to

learn to become successful employees through the participants' journal entries. The journal prompt question depended upon the participants being former employees and based on their experiences as IT professionals at the UCC. The second round of data collection included a survey to supplement the data based on the answers from the journals, concerning their views on how to increase the technical knowledge. Lastly, for the third round of data collection, semistructured interviews were conducted to gain a deeper insight, after analyzing the qualitative data from the surveys and documentation, on how to retain the technical knowledge of new IT hires from the former employees' experiences at the UCC (Glesne, 2011; Lodico et al., 2010).

Data Collected and Recorded: Documentation

The first round of data collection entailed obtaining documents. These journals discussed the background of what new IT hires needed for their own development within a company (Appendix C). Participants were emailed and asked to partake in the study, as well as requested to write daily for 2 weeks. Content analysis, followed by descriptive analysis, of this data displayed the missing learning opportunities as discussed in the findings section. The journals provided suggestions about the essential information to add to the self-service tools, or orientation programs, in order to discern what new IT hires' were required to learn based upon the experiences of the former employees. Glesne (2011) stated that to understand a phenomenon, one must know its history (p. 85).

Content analysis of the journals (Appendix C) necessitated keeping a research journal of notes and discoveries from analyzing the data. The analysis of the journals consisted of reading each journal entry closely. In addition, the journals provided a

background of what was necessary for new IT hires to become successful in their roles. The notes kept provided key points found in the information to answer the research questions of the study, organized according to the data into research logs, and placed into a database, called journals. It was expected that the analyzing and coding of the journals would take approximately 2 months; however, it took approximately 1 month to code and analyze to discover if the data answered the study questions. From the thorough analysis, I wrote questions for clarification to include in both the survey and interviewing processes. The journals were written by the participants in a Microsoft Word document, dated for each time they wrote, and emailed back to me at the end of 2 weeks.

After the 2 weeks were finished, I initiated the data analysis once I obtained the data (Glesne, 2011). The data were read and reread for understanding and identification of any emerging themes. After discovering the themes to recode the data, the data were parsed and placed into a database and separated by participants' numbers (rows). Once the data were placed in the database, content analysis, followed by descriptive analysis and theoretical analysis, was used to analyze the data line by line. The analyses of the data produced the themes: *need to know*, *questions to ask*, and *ways to find and learn needed information*. The data were then separated in the database based on the categories (columns) from the themes and saved on a laptop and desktop, then backed up on an external hard drive and thumb drive. Then the data were analyzed again to discover new ideas or information. After separating and analyzing the data, three industry experts were asked to peer review the analysis in order to evaluate the validity of the study's findings during the collection of documentation.

Specifically, the journals provided several details of what information was necessary within the first few months for new IT hires. This included what new IT hires should ask, and how to find and learn the obligatory information to become successful and productive. The use of documentation, one of the most popular data collection techniques, was to "corroborate and augment evidence" (Yin, 2009, p. 103). The documentation from the journals partially answered the guiding research questions of: "How did the company assess and increase the technical knowledge of new IT hires when they did not use onboarding?" and "How did the company teach new IT hires their culture without onboarding to ensure adequate learning and retention?" In addition, these journals provided an answer to the main questions, the subsequent question, and its subquestions based upon their experiences as IT professionals at the UCC. The questions guiding this round of data collection included: What do new IT hires need to learn during the first few months to become productive and successful employees? and "How could self-service tools teach the culture of the company?"

Data collected and recorded: Surveys

The second data collection involved the participation in an openended survey (Appendix D) that asked the participants about the information needed to increase technical knowledge of new IT hires based upon their own experiences as new employees at the UCC (Glesne, 2011). The collection of the survey responses provided the information necessary to understand what the former IT employees thought that new IT hires needed to aid in increasing the technical knowledge to become successful employees. The survey consisted of the use of a preexisting survey that was used with

permission from J. M. Nelson (2011) along with additional questions. This included 25 openended and multiple-choice questions, and was piloted by five IT professionals prior to releasing it to the participants. The survey was emailed to them, took approximately 10-25 minutes of the participants' time, and then emailed back for analysis. Additionally, the data collection took 2 weeks. This was to ensure that participants not only provided their answers, but also presented any questions they had, and any requests for clarifications. It was important to ensure that the circumstances were "consistent with the specific procedure and questions contained in the case study protocol" (Yin, 2009, p. 123).

As the surveys came in, the data were immediately parsed and analyzed, then compared to the rest of the surveys as they were completed. The data were compared to look for new emerging themes and if the data fit into existing themes found from the documentation. The data collected were stored on a laptop, a desktop computer, and backed up on an external hard drive and thumb drive. The data were placed into an Excel spreadsheet to enable better readability of the surveys, and for comparison. After data analysis and the notes for the analysis were placed into a database table, called survey analysis, the data were highlighted in yellow. This helped determine the most relevant information that answered the questions guiding this round of data collection. The themes that emerged from this collection of data were *feedback*, *socialization*, *communication*, *experience and behavior*, and *mentoring.* To ensure the reliability of the data collected for this round, it was important to cite specific documents, such as the journals and interview notes to compare it to, and ensured that the database revealed the

actual evidence collected, such as the time and date. The data were then peer reviewed by three people (classmates and experts) to ensure validity.

The examination of the surveys necessitated keeping a journal of notes, placed in its own database, which explained the data and any questions that arose from the survey results to ask during the interviews. Data analysis of the surveys entailed finding the frequency of the answers, and provided a basis of the next round of data collection while including a reflection on the part of the researcher that was placed in the overall notes database and a Word document (Hatch, 2002). The questions guiding this data collection were "How did the company assess and increase the technical knowledge of new IT hires when they did not use onboarding?" and "What processes would need to be in place to be able to assess current new IT hire knowledge and increase their knowledge?"

Data collected and recorded: Interviews

To ensure a rich collection of data, the third round of data collection consisted of Skype phone calls to the participants' landlines and in person interviews (Appendix E). Moreover, this was to obtain a better understanding of what the former IT employees thought and felt about using onboarding as a means to increase and retain technical knowledge of new IT hires at the UCC (Glesne, 2011). Participants were emailed, asked when they were available, and reminded that the interviews were to be recorded for accuracy and transcription. The first round of interviews, in person and over Skype, lasted half an hour to 45 minutes in duration over a span of 2 weeks to ensure that all participants were interviewed. Then, all of the participants were interviewed (in person and over Skype) for a second round for approximately 10 minutes. Since other questions

arose during the transcription of the data and the ongoing data analysis, another 2 weeks were appropriate after the concluding interview to confirm that all who needed to be were interviewed again.

The interviews were semistructured to provide a starting point for the questions, yet allowed to be open enough for a conversational flow of answers from the participants. Through the interviews, I explored each former IT employee's understanding of their roles, the learning needed, and their experiences as a new IT hire. The participants were called using Skype and their landlines and, with the permission of the participants, were recorded using Adobe Soundbooth for transcription and emailed to each participant for member checking (Creswell, 2012). The one participant that requested an in person interview was recorded using a handheld digital recorder and transcribed using NVivo. The Skype interviews were then transcribed using NVivo and typed into a Microsoft Word document and color-coded for member checking. The data were analyzed and coded line-by-line to find emerging themes while saved on a laptop, desktop, external hard drive and thumb drive. Once saved, each transcribed interview was placed back into NVivo for analysis and coding. The transcripts were read and reread, then categorized into themes. The new themes that emerged from this round of data collection included, along with the themes generated from analysis of the previous data: *engagement*, *productivity*, *face-to-face*, *progressive approaches*, and *trust*. To ensure validity of the in person and over Skype interviews, four IT experts were asked to peer review the notes taken on the transcribed interviews to ensure that the emerging data made sense. Furthermore, the participants were asked to perform member checking for data validity.

Data analysis consisted of transcribing the in person and over Skype interviews and saving the data within the study database in a separate table, called interview analysis, with the participants checking the accuracy of the transcriptions (Creswell, 2012). The data were read and reread through thoroughly for key information and saved within the database along with a research log to keep track of key findings. The questions guiding the data collection were: "How did the company assess and increase the technical knowledge of new IT hires when they did not use onboarding?" and "Since the Unified Communications Company did not have onboarding, how could a company use onboarding to assess and evaluate current and future knowledge needed?"

Data Analysis

The case under study was to learn about the lack of assessing and evaluating learning of new IT hires provided through onboarding within the bounded context of former IT employees from the UCC (Glesne, 2011; Lodico et al., 2010; Merriam, 2009). This study, based on the UCC being a single unit of analysis, was a holistic, particularistic, instrumental case study to answer the questions of: "How did the company assess and increase the technical knowledge from IT hires when they did not use onboarding?" and "How did the company teach new IT hires their culture, without onboarding, to ensure adequate learning and retention?" In order to answer those main study questions, the journals, surveys, and interviews (in person and over Skype) focused on the following questions in Tables 1-3.

Table 1

Connecting Journals to the Study Questions

Type	Main Questions Answered	Sub-Questions Answered
Documentation	"What do new IT hires need to learn during the first few months to become productive and successful employees?" and "How did the self-service tools teach the culture of the company?"	"What information do new IT hires need to know within the first few months?" "What questions should new IT hires ask?" "What ways could future new IT hires find and learn what information is needed to become successful and productive?"

Table 2

Connecting Surveys to the Study Questions

Type	Main Questions Answered	Sub-Questions Answered
Openended and Multiple Choice	"How did the company assess and increase the technical knowledge of new IT hires when they did not use onboarding?" and "What processes would need to be in place to be able to assess current new IT hire knowledge and increase their knowledge?"	"What assessments provide the best information to understand the new IT hires current knowledge?" "What questions should be asked to aid in evaluating the future knowledge needed?" "What is the general IT knowledge needed to do the job?" "What information is available to new IT hires to access to know what they need to learn?" "How do new IT hires find needed information?" "How is the information presented?" "How does a person know that the information is specific enough and needed for their job function/role?" "What are the processes that would assess current knowledge to increase technical knowledge?" "How could mentorship help?" "What are the types of assessments that would accurately assess their knowledge?" "If there were no current processes, what would you recommend?" "How could self-service tools teach the culture of the company?"

Table 3

Connecting Interviews to the Study Questions

Type	Main Questions Answered	Sub-Questions Answered
Semistructured, openended	"How did the company assess and increase the technical knowledge of new IT hires when they did not use onboarding?" and "Since the Unified Communications Company did not have onboarding, how could a company use onboarding to assess and evaluate current and future knowledge needed?"	"What do new IT hires need to learn during the first few months to become productive and successful employees?" "What processes would need to be in place to be able to assess current new IT hire knowledge and increase their knowledge?" "What were the current processes to ensure that new IT hires were receiving the training needed to perform their jobs adequately?"

Examination of the data occurred simultaneously with data collection to organize and "assess themes, hunches, ideas, and things to pursue" (Merriam, 2009, p. 170). Analyzing of the data occurred as each data collection round was completed. Moreover, examination of the data occurred sequentially: The data from the surveys were analyzed after the journals and the in person and over Skype interviews were analyzed after the surveys. Engaging in data collection and data analysis in tandem allowed for a more focused, nonrepetitious, and manageable processing of the data. I used NVivo by QSR, and Excel, Word, and Access by Microsoft to separate, categorize, and contain the data, research logs, and reflective notes after obtaining permissions from the IRB (02-08-13-0189050) and the participants. According to Miles and Huberman (1994), the best way to begin analyzing the data was to reconfigure the data by making a matrix of categories,

put the data into those categories, tabulate the frequency of words or events, examine the complexity, and put information in chronological or topical order.

To begin the data analysis, five databases were created using Microsoft Access to keep the data and to maintain the study's overall notes. For the journals, extensive notes were taken and the journals were analyzed line-by-line, looking for themes. Additionally, for the surveys, I took extensive notes on the emerging themes, placed the themes into a Microsoft Excel worksheet, and reanalyzed them for common themes and ideas. Then the themes and findings from the data analysis of the surveys were compared to the themes and findings found from the journals. The in person and over Skype interviews were transcribed, then read through for themes and reread to code the lines of text into the themes. Once finished, a thorough reading of the data and the notes transpired to ensure nothing was missed; then all three data collection rounds were compared for consistency. Subsequently, a comparison of the participants' answers took place for reliability; then compared again to discern any new ideas. After placing the data into NVivo to determine the frequency of words and to combine the data into categories, a comparison of the literature on onboarding transpired to assess if the collected data matched the reported literature. The analyzing and reduction of themes, or categories, took place to examine the data under four main themes. Analyzing the data further consisted of editing, removing redundancies, putting pieces together, and organizing for easy access by topical order (Merriam, 2009). By searching and finding patterns, synthesizing and interpreting the data, themes (Table 4) emerged from the data (Glesne, 2011).

Table 4

Emerging Themes

Data Collection Type	Documentation	Surveys	Interviews
Themes	*need to know*, *questions to ask*, *ways to find and learn needed information*	*feedback*, *socialization*, *communication*, *experience & behavior*, *mentoring*	*engagement*, *productivity*, *face-to-face*, *progressive approaches*, *trust*

During the data collection and data analyses, I had the opportunity to return to certain or all participants with new questions that arose. Once the data collection began, Glesne (2011) recommended that researchers start coding the data. Coding procedures required defining the analyzed data and asking questions, such as whether there were differences, causes, consequences, or attitudes. Within this case study, the coding entailed finding the differences or similarities between the surveys, journals, and/or answers from the in person and over Skype interviews (if there were differences) and comparing attitudes (reactions, causes for answers) from each participant.

Coding the data involved finding the codes by going line-by-line through the transcripts, notes, and all other forms of data collected (Creswell, 2012; Glesne, 2011). Multiple ways were available to code the data received from data collection procedures throughout the study. This study used descriptive coding first to gain a summary of what the participants were saying and how they were saying it (Glesne, 2011). The highlighted analysis (in yellow and typed in pink in the database) of the data focused on what the participants were saying. Then, I read the data once more to discover how the participants were saying what they were saying. Coding this data involved highlighting it

in yellow and typing it in light blue while placing it in the same database, yet in a different table to keep the findings clearly separate and easily readable as well as accessible. Once the descriptive analysis of the data were completed, and to discover why what occurred in the data possibly happened, I reanalyzed the data moving from descriptive analysis to an analytical and theoretical analysis (Taylor & Gibbs, 2010).

Findings

Findings from the research provided insight into the need for a formal approach to onboarding, adding to current orientations in order to address the gap in practice. In order for companies to stay current and to compete within the knowledge economy, it was essential to have training programs that delivered the initial training necessary for learning and innovation (Bhatnagar, 2007; Bradt & Vonnegut, 2009; Brewer & Brewer, 2010; Plunkett, 2010; Sequent et al., 2008; Smith, 2010). Based upon the data analysis, the data collected from the four participants provided the themes of *increase tech knowledge, find new information*, *trust*, *engagement*, *socialization*, *productivity*, *communication*, *mentoring*, *experience and behavior*, *need to learn*, *face-to-face*, *questions to ask*, and *progressive approaches*. These themes combined into four key themes, with some of the subthemes overlapping and included *training*, *onboarding*, *culture*, and *experience & feedback* (Table 5).

Table 5

Main Themes

Training	Onboarding	Culture	Experience & Feedback
Increase tech knowledge	Increase tech knowledge	Trust	Productivity
Find new info	Find new info	Engagement	Need to learn
Productivity	Trust	Socialization	Face-to-face
Mentoring	Engagement	Communication	Progressive approaches
Experience & Behavior	Socialization	Experience & Behavior	
Need to learn	Communication	Face-to-face	
Questions to ask	Mentoring	Questions to ask	
	Questions to ask	Progressive approaches	

Training

Training was the first main theme that emerged out of the data analysis. According to the data, participants answered questions pertaining to the amount and adequacy of the training offered (Table 6). This revealed that the training offered, through an informal orientation, was not adequate to allow new IT hires to be immediately productive, in addition to not differentiating between them being college IT hires or experienced IT hires. IT has a rather steep learning curve, and was difficult for new IT hires to be instantaneously productive because processes differed depending upon the company and the hardware and software used. IT is ultimately about problem solving, and since IT hires engage in solving problems, they required the basic knowledge of why technology worked and who needed the technology, but mostly how to fix the technology to keep it running smoothly.

Table 6

Training

Responses	Results					Totals
	5 – A lot	4 – Somewhat Satisfied	3 - Neutral	2 – Somewhat Dissatisfied	1 – Very Dissatisfied	
Feedback	1		1	2		12
Enough Training	1	1	1	1		14
Promotion Training				1	3	5
Confident Application		3		1		14
Preparation		3		1		14
Communication		2	1	1		13

Initially to obtain the totals in the table, I ranked the available answers provided in the survey questions (Appendix D) from one to five, one being the worst and five being the best by converting it to a Likert-type scale from the answers received. To obtain the totals for each section, it required adding up how many participants gave it a one through five on the scale. For example, with feedback one participant gave the answer of highly satisfied, which was converted into a five, another answered moderately satisfied (which corresponded to a three), then, out of the remaining participants, two gave twos; those scale numbers were then added to obtain the total (5+3+2+2). Therefore, based on the analysis, Feedback had 12 based on the numbers picked from the scale while Enough Training had 14, Promotion Training had 5, Confident Application had 14, Preparation had 14, and Communication had 13. Based upon these numbers, it was a tie for

satisfaction between the respondents for Enough Training, Confident Application, and Preparation. This was followed by Communication and Feedback while Promotion Training had the least. Although Enough Training, Confident Application, and Preparation had high numbers, the majority of the respondents were only somewhat satisfied with their trainings in each of those categories, signifying that there was a need for improvement within the available training for new IT hires. Communication and Feedback had lower overall numbers, indicating that the respondents were more dissatisfied with those training categories, showing that these were two vital aspects of successful training, were inadequate, and necessitated improvement. Lastly, respondents had the least satisfaction with their training options for Promotion Training. These totals indicated the need for better training to provide the new IT hires with the ability of immediate productivity.

In order to remedy the problem of inadequate training, according to the participants, during training, the company should provide communication as a central factor for increased learning, such as how to present the information. The company should provide information on the culture, their roles, and responsibilities, in addition to explaining the company's role to increase the new IT hires' knowledge of the company's culture. This was necessary so that the company could ensure communication was flowing in order for the employees, new and seasoned, to able to adjust as necessary to the changes taking place. The participants indicated that the company could use videos, reading, or one-on-one meetings with new IT hires' mentors or bosses to present the information. These suggestions included various ways to capture and provide

information for the new IT hires while ensuring that they discovered ways, on their own, to research and learn. This was because training provided companies with new IT hires "that are mobile … and do things throughout the company" (Participant #2) to become more productive.

Participants proposed that there should be formative and summative assessments, such as observations and testing, ensuring that the new IT hires were learning and were able to perform their job roles and responsibilities. In addition, used as feedback and for the company to modify the program as necessary, these formative and summative assessments offered the new IT hires the necessary information required to perform their jobs at their optimal performance. This would allow the company to determine what knowledge they possessed prior to training to assess what they needed to know and how much they needed to learn. In order to provide motivation and learning:

> start out with a checklist approach, of what are the key things and then from those checklists build work constructions which impart not just the check it off mentality, but a little bit more sense of the rationale for the performance. (Participant #3)

They should be set up with mentors that fit and that could aid them in finding out *how*, as well as *what* things were done, in addition to socializing the new hire into the company. This would encourage their productivity and help them expand their network to provide the new hire with more people from which to find information; thereby increasing new IT hires' learning. To provide the sharing of knowledge easily and quickly, the company should create a database that housed employee knowledge that

would allow the new IT hires, and existing employees, to check and update the database frequently to determine their current knowledge and what future knowledge they required.

Onboarding

To determine the current and future knowledge of new IT hires, as was mentioned in the literature, onboarding consisted of mentoring, socialization, trust, and engagement (Conger & Fishel, 2007; Davis & Shannon, 2011; Hyatt, 2009; Jenkins, 2008; Mason & Lefrere, 2003; Saks & Gruman, 2011; Williams et al., 2009). Participants noted that to provide this necessary learning, managers and new IT hires should question their bosses, and their bosses them, to provide policies that enabled the new IT hires to feel comfortable in asking the necessary and vital questions that pertained to their jobs. Moreover, the participants proffered that the company should have new IT hires engage in face-to-face interviews to gauge what and how much information they retained from the training and materials in frequent intervals (Table 7).

Table 7

Uses of Onboarding

Responses	Results
Uses of Onboarding	Respondents Answers: "qualitative analysis could be used as a starting point to consider needs" "implement a system that collects employees [sic] skill levels and experiences. Identify and understand all company current roles/responsibilities/authorities. Determine how to assess and communicate to employees their current contribution to the company, and map a plan of success for each employees and communicate that plan to the employee" "a company and a department should have a clear view of their role and what they need to accomplish it. Required skill sets should be built and candidates screened and hired based on them. The employer should know exactly what they are looking for before the applicant ever walks in the door for the interview."
Successful Strategy	Respondents Answers: "open and friendly" "open and friendly; a combination of approaches to help employee learn duties, processes, and culture" "introducing employees to benefits" "have the manager of department be involved in the interview and hiring process with heavy weight on their comments and choices. Another is standardized written and/or verbal testing on materials related to the job"

Participants also contended that there should be frequent feedback, from new hires and those they shadowed and/or their mentors in order to receive a complete picture of how the new IT hire was progressing. The frequency of feedback; however, depended upon the new IT hire's needs as well as what was currently going on within the company. Participants discerned that the company should guide the newly hired IT staff during their first year, or up to 18 months, depending upon the job level. Feedback was necessary and should be more frequent at first, and as time goes on abate, while at the same time supply the new IT hires with ample chances to show what they learned so that they could gain confidence to be able to do it on their own. New IT hires needed to understand how their work affected the other departments of the company and what those other departments did in order to deliver solutions to identified problems. Participant #4 explains that:

> IT is kind of a jack-of-all-trades skill.… I really feel that the base ideology for a person in IT is problem-solving skills. Because, most of the time, you are being brought into an environment where you've got an end user that is usually at the minimum frustrated and can't tell you very well what the problem is or what they've done to either create it or to try and solve it.

Furthermore, the participants asserted that the new IT hires must research and document answers for their, and others, future use to share and grow their knowledge. It was necessary for them to understand that training would include refresher courses and be hands-on. This was because it offered the newly hired staff mentors, in conjunction with many opportunities to practice, what they learned while permitting them the ability to demonstrate their learning. It was necessary to screen these mentors to ensure the

proper fit with the company and that they had a positive attitude about the company. This (according to the participants' answers) would ensure that the mentors and the company were able to provide the best job and mentor to the new hire. Participants also recommended changing the mentor periodically to help new IT hires grow their network and obtain diverse information from a diverse set of people. Consequently, without those periodic changes the new IT hire would lose engagement within their training and the company, thus losing productivity in the process. Therefore, the use of mentors and socialization (Table 8) for the new IT hires was to not throw the them into an IT project too quickly because the company could lose their new IT hires' learning, as well as a trust in their ability to grow with their own knowledge.

Table 8

Mentoring, Socialization, and Engagement

Responses	Results
Engaged During Learning	4 – yes
Improve Engagement	1 – no answer 1 – more hands-on 1 – agent for change, help them understand transitions 1 – better communications
Adequate Support	1 – yes 1 – outreach on feedback would help support 2 – not enough support for feedback or involvement
Access to Mentor	4 - yes, positive impact
Materials – Would it or Could it Help	4 – yes and yes, would have helped

Culture

Another major theme that emerged from the analysis of the data collected was culture. Boyacigiller, Kleinberg, Phillips, & Sakmann (2004) noted that culture was a shared group of understandings that companies came to rely upon to aid in helping new and seasoned hires understand where they were going and where they had been collectively. Culture was a part of the company that assisted in the understanding of roles, responsibilities, and learning (Table 9). However, one participant expounded that those who were there living the culture of the company daily should be involved by way of providing their tacit and explicit knowledge to new IT staff and that the company should provide an open environment to look at the culture and evaluate it.

> I think that especially coming in the door for the first day, your biggest hurdle for a new employee, whether they're IT, or anything, is getting accustomed to the culture of the organization. And I think once they start gaining an understanding of the culture, then their job responsibilities will start to form around that, and their understanding of their job responsibilities will form around that. (Participant #3)

Still, to understand the corporate culture, the participants speculated that self-service tools hindered that productivity because people were susceptible to the interpretation of the new IT hire who read it and who of which may not understand it. Instead, the company should guide the IT hire and ensure that what they learned was what the company saw as essential. Therefore, a person with a combination of communication tools, such as YouTube videos, documents, and others, should present the data as it pertained to the culture, because culture "comes best from a human being

whether it be in person or something over video" (Participant #1). With culture, it was important to provide the new IT hires with the tools necessary, whether it was in person, online, or a mixture of both, but have it as an interactive training where the new hires could talk to people through blogs appropriate in the different countries where the company resided (Participant #3). A company could teach new IT hires the culture, nevertheless it was important that they be immersed in it for them to gain and listen to experiences to appreciate the culture, as opposed to just the explanation of it.

Table 9

Culture

Responses	Results
Understanding Culture	2 – satisfied 2 – dissatisfied
Job Explanation	3 – somewhat clear 1 – not clear
Learning	2 – satisfied 2 – dissatisfied

Experience and Feedback

According to the participants' data, experience required the efforts of the new IT hire to gain understanding and learning. In some instances, the majority of the participants believed that it was the manager and company's responsibility to ensure that the new IT hires were successful (Table 10). In the past, only executives were onboarded while all others were oriented (Klein & Polin, 2012). Today it is important to ensure that all were onboarded in conjunction with the differentiation between onboarding programs for experienced new IT hires and IT college graduates. All participants agreed this was

essential because those new IT hires with experience had a greater understanding and knowledge of how certain technology worked beyond the classroom. While new college IT hires had a general understanding and knowledge of systems and software, they also lacked experience and knowledge beyond the basics of technology learned within the classroom. Therefore, assessment and evaluation was necessary for IT hires to determine their personal knowledge bases so that the company could prepare them adequately for their roles and responsibilities.

Table 10

Employee Efforts

Responses	Results
Employee Success	1 – 100% employee effort 2 – 50/50 1 – more complicated – employee and manager need to work together along with the company

Feedback, however, provided companies with the information to assess and evaluate new IT hires, and current employees as well as it proffered the company with the information necessary to comprehend and know what did and did not work. Communication was vital for allowing feedback to occur and suggested a thorough understanding of the needs and requirements from all involved. Feedback from those affected imparted the company with improvement, and offered new IT hires (and current employees) with an opportunity to develop and plan their own growth because "ongoing communication is necessary" (Participant #1). Furthermore, new IT hires and senior employees:

> have a lot of that knowledge that isn't recorded anywhere. A lot of times, they'll know what's going on within the company, culturally and every other kind of information needed, and you may not be able to obtain that information without the feedback. (Participant #2)

Feedback delivered what other departments' acuities were of what had changed over time and in terms of the response rates or perceptions "of the length of time it took to accomplish a certain number of initiatives" of new IT hires (Participant #3). With feedback, the managers had the ability to assess and evaluate their newly hired IT staff, which would include input from those shadowed and their opinions on whether the new IT hires needed extra time or were ready for more responsibility. Consequently, it could help the company provide their new IT hires with the best learning experiences.

Main Study Questions

"How did the company assess and increase the technical knowledge from IT hires when they did not use onboarding?"

Based on the analysis of the data, the UCC did not fully assess or increase the new IT hires' technical knowledge in a formal matter. According to the respondents, the technical training was more informal by mentoring or by what the manager deemed necessary for learning. Much of the learning provided to new IT hires came from brief training, trial and error, and the assumption that the new IT staff knew how to do certain tasks. Sometimes this strategy ensured the right fit for both the new employee and the company; however, sometimes it did not. Without assessing and evaluating periodically, through both formal and informal means and conjointly more frequently than once a year,

it was difficult to be able to ensure that new hires were learning. This was especially true with IT staff since the learning needed constant and consistent updates due to the speed with which technological advances occurred. It was essential that the changes that did occur be transmitted to the new hire, which would include mandatory refresher training when systems were updated.

Training was an essential part of new IT hires being able to be productive; nevertheless, some may need more training than others may. Furthermore, participants noted that it was essential to be able to assess the training requirements from the feedback provided by new IT hires, their co-workers, their mentors, or from those who were being shadowed. In my opinion, based upon the responses provided by the participants, that it was necessary to determine whether new hires needed extra training and mentoring beyond the initial onboarding period, which depended upon the new IT hire's personality. The provision of a small network for the new staff should be provided in order for them to be able to gather information from multiple people. Moreover, to assist in determining the training requirements for new IT employees included the addition of observation and testing to encompass feedback for the company to determine what did or did not need fixing within the program.

"How did the company teach new IT hires their culture, without onboarding, to ensure adequate learning and retention?"

Based upon the responses during the in person and over Skype interviews, the UCC taught the culture to new IT hires through reading materials. Conversely, the focal point of the materials sent out to the new IT hires was not on the culture of the company.

If there were to be changes made to help future new hires, respondents agreed that it was necessary to ensure that the materials included more information on the company's culture.

The UCC tried to teach the company culture by using self-service tools. All participants agreed that self-service tools minimally helped with the provision of the necessary information. The respondents also agreed that it took more information and different methods of presenting the information than just having people read it. It took interaction and socialization to ensure that everyone was involved, not just observation and memorization of facts on a computer screen or on a piece of paper. Culture was about the people, and people have to be a part of it.

Additionally, corporate culture needed consistent evaluation to ensure that the materials used were providing adequate information. It must also ensure that the culture aligned with the mission and vision statements of the company, and guarantee that the information was up to date and doing what it set out to do. The data analysis indicated that teaching the culture of the company required immersion and interaction for the newly hired IT staff. Corporate culture should also provide the new hires with opportunities to participate in different activities to assist them in understanding what the corporate culture was, how the company operated, how the new and current employees fit within the growth of the company, and how they could be a part of making the company better.

It was also essential to note that the corporate culture and the growth and development of employee knowledge came from the socialization and trust that

employees felt for and from the company. When the culture was assessed and evaluated, the findings should be used to ensure that the employees were happy and acclimated to the company. It showed new IT hires what the company actually stood for and provided a way for new IT hires to learn. Therefore, culture played a big role in whether the new IT hires (and all hires) were adjusted, performed at their peak, and had immediate productivity.

Recommendations

In order for new IT hires to thrive, communication between the company, the manager, and the employee is required. The findings indicate that culture provides people a sense of belonging and indicate that onboarding and communication manages the new IT hires' learning and expectations. Because many companies may not be able to implement databases, testing, refresher testing courses, or a more formal onboarding program at the onset, focusing upon feedback, communication, mentoring, and culture should be the main goals.

Mentoring, especially for IT, enables new hires, with guidance and support, to be able to perform at the company's expected levels. Feedback provides the company with the knowledge to make necessary changes and improvements, or to keep the learning as is. However, to ensure feedback is continuous it is necessary to add in the ability for those who are uncomfortable making their questions and comments known, such as anonymously replying to a blog, or using an anonymous feedback box. The addition of culture ensures that the new IT hire understands how their role fits within the company, and communication ensures that changes and learning take place. To begin upon the

improvement of training for new IT hires, it is necessary to assess and evaluate them to ensure that they are learning what is required. Then, based upon that feedback from the new IT hires and the current employees, along with the new IT hires' immersion into the culture, use those findings to develop an onboarding program suited to that company's corporate culture.

Quality Assurance

Quality assurance of the study consisted of answering the questions of what was the best way to interpret the data, include what was noticed, and why the specific data was noticed (Glesne, 2011). Answering the first question of what the researcher noticed involved collecting multiple types of data and using multiple types of participants (Creswell, 2012; Glesne, 2011). The answers to why the researcher noticed the specific data and how to interpret that data entailed analyzing the data for words or phrases that were repeated as well as the commonality or differences between the data. The accuracy and credibility of this study was ensured through the triangulation of data and a reflection upon the role of the researcher (the whole process and the subjectivity given to the data) through writing down my thoughts and feelings as the data was analyzed. In addition, I constantly challenged the processes and assumptions during the data collection through the comparison of my findings to my notes and any possible biases.

Since it was vital to note researcher (and possible participant) bias throughout the study, I reflected weekly on the findings and discoveries throughout the collection and analysis of the data while using those reflections to keep on top of any bias. None of the participants indicated animosity towards the UCC and left voluntarily; therefore, it

removed some bias towards the company. Some people felt that they and/or their subordinates did not get the adequate training and support they needed to be successful in their jobs, leading to a possible partiality in their answers of what new IT hires needed. One participant seemed happy with the company indicating a possible bias of not seeing anything that truly needed great improvement, yet that participant was still helpful in uncovering the answers to the study's questions. However, concentrating on the findings and developing themes based on the data received from the participants and documents facilitated my efforts to remain unbiased and objective and to allow the data to provide the themes that emerged (Glesne, 2011; Merriam, 2009; Miles & Huberman, 1994).

Triangulating the data provided validity to the research by using a methodological triangulation. Methodological triangulation, according to Guion (2002) and Guion, Diehl, and McDonald (2011), used multiple qualitative and/or quantitative methods (such as interviews, surveys, and documentation) to study the new IT hires that would corroborate information, from different participants or participants to survey results. Then, after having used the three types of data collection methods, I compared and contrasted them to find the commonalities or disparities to provide similar conclusions. To provide validity, I used member checking for the data from the in person and over Skype interviews and peer debriefing for documentation (Miles & Huberman, 1994). Additionally, the findings were shared with the participants, friends (IT professionals), and colleagues (fellow classmates and other doctoral students) to verify the research by having them point out discrepancies or confusing data. By sharing the findings with the participants, friends, and colleagues, they helped discern explanations and provide new

ideas, along with informing the researcher of potential problems if published (Glesne, 2011; Hancock & Algozzine, 2006).

Discrepant Cases

In order to provide quality assurance for case studies, it was essential to describe the use of or nonuse of discrepant cases. Since case studies focused on a specific unit of analysis, which included providing a complete description of the phenomenon studied, Hatch (2002) and Yin (2009) recommended disregarding the data that did not align with the chosen research questions. Merriam (2009) noted that some researchers looked for discrepant cases (also known as negative cases) out of emerging findings to discover what may be different from the original theory. Using discrepant cases would provide a more in depth analysis of the data gathered and would offer differing views to show unbiased research.

Onwuegbuzie and Leech (2007) discussed documenting negative cases to allow the audience to evaluate and draw their own conclusions. This then provided more rigor, credibility, and validity to research by making data more credible through the minimization of negative cases (Morrow, 2005; Onwuegbuzie & Leech, 2007). However, Freeman, deMarrais, Preissle, Roulston, and St. Pierre (2007) mentioned that the use of discrepant cases included a way to rework the evolving patterns to fit the data to produce generalizations, interpretations, and theories. Discrepant or negative cases within this study were used to discover a deeper account of onboarding, assessment, and evaluation, based upon the former IT hires' perspectives.

Limitations, Delimitations, and Assumptions

Quality assurance of the study included reporting limitations, delimitations, and assumptions. To begin with, the limitations of this study stem from the scope of the research. The research only centralized upon former IT employees at the UCC and did not include other departments; therefore, the belief was that it could not be generalized to a large number of people or companies. However, Flyvbjerg (2006) argued that depending upon the type of case chosen, case studies could be generalized. The study was also limited due to the small number of participants, originally five but only received four responses, and solely based upon their experiences. Additionally, this study did not focus upon the motivation, opportunity (other than opportunity of training and onboarding programs), a deeper understanding of the new IT hires' engagement, or their ability to share knowledge.

The delimitations of the study were that the emphasis was upon new IT hires, rather than a sampling of all new employees and that it focused upon a specific site rather than multiple departments at multiple companies. Moreover, the assumptions of this study were that the people examined had an IT background, had the ability and opportunity to share their knowledge, and that the people wanted to share their knowledge with others. In addition, another assumption was that the people studied would offer their insight and knowledge on how to improve upon onboarding and the UCC's current orientation programs.

Conclusion

The research consisted of utilizing an instrumental case study to gain an in-depth understanding of the factors that affected the lack of assessment and evaluation in the absence of onboarding based upon the former employees' perspectives on new IT hires to the company. I selected a case study for this project because it included an in-depth exploration of the research problem as a bounded component; and it entailed multiple data collection techniques to provide rigor, credibility, and accuracy (Creswell, 2012; Hatch, 2002; Lodico et al., 2010; Merriam, 2009; Yin, 2009). The rationale for using a case study was based on a single, holistic, particularistic case of the learning required by newly hired IT staff within the UCC through examination of the lived experiences of former employees. Moreover, this study encompassed an educational aspect, which was the lack of assessment and evaluation of new IT hires' learning.

In order to obtain a rich and detailed description of said phenomenon, the selection of participants reflected the requirements of the sample size being small, four participants for this study, for a qualitative case study. The participants were provided informed consent forms so that they knew and understood the purpose and processes of the study, once permissions from the URR and IRB were obtained (IRB approval number 02-08-13-0189050). Then, the data were collected through three different rounds of data collection for triangulation of the data to ensure accuracy and credibility of the findings. After approval by the URR and subsequently the IRB, data collection and analysis occurred simultaneously and sequentially to ensure organization and to delve into new ideas or themes. Then, once data collection was under way, as Glesne (2011) proffered,

it was necessary to begin the coding procedures. This enabled me to provide direct attention and work with manageable data, reducing the feeling of being overwhelmed, in addition to the removal of repetitious information (Merriam, 2009). To protect the data, I locked the data in a password-protected database on a laptop and desktop and backed it up on an external hard drive and thumb drive.

Therefore, a case study was used to answer the research questions: "How did the company assess and increase the technical knowledge of new IT hires when they did not use onboarding?" and "How did the company teach new IT hires their culture without onboarding to ensure adequate learning and retention?" The findings of the research indicated that onboarding, along with orientation, would provide adequate training for new IT hires. This was because onboarding accommodated new IT hires with mentoring, socialization, trust, and engagement required to perform in a knowledge economy. Onboarding promoted the sharing of knowledge, and increased knowledge and innovation. Therefore, the addition of an onboarding program would certify that new IT hires were assessed and evaluated to guarantee learning took place through feedback from both the new IT hire's mentor and those they shadowed.

In addition, the findings indicated that onboarding was an essential part of new IT staff's immediate productivity, and that the amount of training needed, depended upon the individual new IT hire. The findings also specified that it was imperative to provide a formal, and informal, approach to orientation through the addition of an onboarding program to aid in the development and learning of new IT hires. To ensure that onboarding provided the necessary learning, it necessitated assessment and evaluation

through formative and summative measures, such as testing, observation, and ways to obtain feedback. The findings of this study indicated that the main themes comprised of training, onboarding, culture, and experience and feedback. With the implementation of a formal onboarding program, the company would be able to assess, increase, and retain learning from their new IT personnel to lead to innovation and the ability to remain competitive in the knowledge economy.

After data collection and analysis, and based upon the findings, a job aid from the former employees' perspectives on new IT hires was created. This job aid will be discussed in Section 3. Moreover, a reflection and discussion on the entire doctoral study process will be in Section 4.

Section 3: The Project

Introduction

After approval from the IRB (approval number 02-08-13-0189050), I concluded from the study that there was a need for more than just the company's informal orientation, they required a formal approach to onboarding. Onboarding, in addition to orientation, provided new IT hires with the requisite knowledge to perform at or beyond their potential. Onboarding provided them with the ability to share and increase their knowledge while becoming immediately fecund (Graybill et al., 2013; Nelson, 2011). However, it was also central to offer support for the new IT hires' learning preservation. Their learning, though, would become problematic for new IT hires to maintain, apply, and increase their newly learned knowledge without learning support. This was because without IT hires retaining their learning, the applicability to the job or job tasks would be difficult (Grossman & Salas, 2011; Rose, McKay, Norman, & Rose, 2012; Serbin & Jensen, 2013). This was especially true since the discipline of IT has a large learning curve, and, like knowledge, was dynamic in nature (Durkin, 2010). Therefore, performance support would provide new IT personnel with a greater transfer of learning because, with support, they would have readily available information.

This readily available information came in the form of performance, or learning, support tools. Performance support tools "represents converged information and work" to enrich and enhance the worker's ability to be instantly industrious (Rosset & Schaffer, 2007, p. 2). In addition, performance support tools must provide new staff with the critical information, processes, wisdoms, and perspectives in order to provide targeted

and tailored information when needed (Rosset & Schaffer, 2007). New IT personnel need a support system in order to understand and retain certain coding procedures, development bases, customer service, and ways to become immediately productive within a relatively short time. Because of this, performance, or learning, support presented the compulsory information, procedures, and perspectives that informed, supplied a quick refresher, or for during those challenging tasks that did not leave room for indecision (Rossett & Schaffer, 2007; Willmore, 2006).

Description and Goals

With the current orientation program, new IT hires were not receiving the support to maintain the compulsory material, processes, and perspectives necessary for innovation and productivity. The was because the UCC uses self-service tools as an informal orientation for their new IT hires without using onboarding, in addition to their orientation, to assess and evaluate current knowledge in order to increase and retain technical knowledge. However, the findings of this study indicated the need for a formal approach to their informal orientation of new IT hires. This was to supply them with the information required in time sensitive or critical situations to perform their jobs and increase learning.

Learning alone was not sufficient in assuring learning transfer; it was the extent that the learning transferred to the job, or job tasks, that contributed to the preservation of that erudition. Fundamentally, it was the time spent repeating the job, or job tasks, that aided in the retention of learning. Grossman and Salas (2011) stated, “in addition to application, the transfer of training involves the generalization and maintenance of the

trained knowledge and skills" (p. 104). However, it was laborious recalling the information essential that new IT recruits learn pertaining to their roles and responsibilities, which did not encompass the difficulty in recalling the specific tasks required to program or dealing with a customer. Therefore, to assure that new IT hires retained their technical knowledge and skills, performance support tools, such as job aids, would provide them with the transfer of learning necessary to perform their jobs accurately and efficiently (Grossman & Salas, 2011; Jackson, 2012).

The goal of the job aid (Appendix A) was to provide new IT hires with a low cost, quick reference guide to retain the learning received during and after their current orientation. If the UCC implemented an onboarding program, the problems in updating the job aids to match the information and accommodate the new IT workers would be nil because accommodating the new workers with job aids would reduce the amount of information they would have to memorize. Consequently, with the reduction in the information memorized, job aids would leave the workers able to perform their tasks without error (Jackson, 2012; Kluge, Grauel, & Burkolter, 2013). It was, and is increasingly necessary that performance support tools offer a way for new IT hires to acquire needed information, progressions, and perspectives quickly to guide their plans and actions. Job aids helped to enhance the performance of new hires (Tilaro & Rosset, 1993); therefore, job aids would provide supplemental support and enhanced performance to new IT trainees with useful information before, during, and after their training.

Rationale

Without job aids, assessments, and evaluations, every year, companies spent billions of dollars on training and development without the addition of supplemental support to enhance IT staff performance. However, it takes more than just providing supplemental support for Ebbinghaus (1885/1913), Averell and Heathcote (2011), Lanese and Nguyen (2012), and Ohno, Hasegawa, Tsuruoka, Terabe, and Gimzewski (2011) noted that people working on demanding tasks and the meaning of those tasks had more troubles remembering the materials learned within the following days or weeks without consistent reminders or repetition. Lanese and Nguyen explained it as "learners forget information most rapidly after the conclusion of a learning event" (p. 18). Lanese and Nguyen noted that the rate of forgetting slows over time, causing learners ultimately to misrecollect any information they had learned, unless it was through repeated practice or continual use. The expectations for new IT hires going through training was to retain the details of their specific roles and the company's policies, as well as how to use their technology. All of this information, especially within the field of IT, would cause information overload (also known as cognitive overload) (Averell & Heathcote, 2011; Ebbinghaus, 1885, 1913; Lanese & Nguyen, 2012; Ohno, Hasegawa, Tsuruoka, Terabe, & Gimzewski, 2011). Information overload, or cognitive overload, was detrimental to the new IT workers' learning because it inhibited learning and performance (Farrington, 2011; Shrivastav & Hiltz, 2013). Farrington argued that too much information at a given time would cause the overload, increasing the chances and frequency of the employees forgetting what they learned. To correct the problem, it required the provision of

information in different intervals and over a longer amount of time. Conversely, much of the material provided in the orientation and onboarding would be forgotten without the use of a performance support tool (Farrington, 2011).

Job aids used throughout training, and after, would offer the UCC, and other companies, the ability to obtain and distribute information to their new IT staff. Job aids presented new IT hires with a brief and low cost guide that could reduce the amount that companies spent on training (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). This was because job aids offered a quick refresher of information or specific tasks, eliminating the need for some types of training. In addition, job aids confirmed a transfer of learning while reducing the need for memorization to facilitate the transfer of learning and tailored to their roles within the company (Salas et al., 2012). Clark and Lyons (2011) stated that visuals aligned with the text and the goals of the training program promoted and improved learning and recollection. Although there were multiple types of performance support (peer coaching, support groups, websites, action planning), the use of a job aid would provide a personalized and easier way to update and deliver brief information to people, whether new or seasoned, paper or mobile. This would offer new IT personnel the ability to navigate through their learning when time was of the essence and enhance performance while guiding and increasing confidence (Burke & Hutchins, 2008; Coloma, Parry, & Berdie, 2010; Gladney, 2011; Salas et al., 2012).

Project Fit and Data Analysis

For new IT hires to be able to navigate, preserve, and enhance their learning, it required the use of job aids. This was because the findings of this study showed the need

for a formal approach to the training provided at the UCC. To gain the benefits of onboarding, and with the theoretical foundation being knowledge management, it was important to assess and evaluate what was and would be learned. However, to increase and retain technical knowledge, there was a need to ensure the transfer of learning. With the amount of training required for immediate productivity and ongoing learning at the UCC, it was important for new IT hires to retain and increase their technical knowledge for current and future projects.

The results of this study also revealed the need for an improvement in the UCC's training, showing and teaching their culture, providing enough experience and feedback, and the addition of onboarding to their current orientation to train, accurately and effectively new IT workers. Based on these findings, an abundance of information would be disseminated to the new IT hire within, at minimum, 3 to 6 months to confirm an increase in learning and learning retention. However, the repetition of some of the information or training to warrant the transfer of learning would be difficult, and sometimes impractical (Rose et al., 2012). Without the support of training, well designed and properly implemented training programs would fail to yield the short– and long–term results expected. Consequently, new IT hires would lose the productivity gained during the training period (Coultas, Grossman, & Salas, 2012). Due to the nature of knowledge being dynamic, and the amount of information delivered, it would be best to guarantee learning support throughout the program rather than only at the end or not at all (Grossman & Salas, 2011; Salas et al., 2012). Learning transfer, then, would require a way to find and share information easily for the continuation of learning. Therefore,

using a job aid for the new IT hires would work best for they could tailor it to their specific job or job tasks (Grossman & Salas, 2011; Salas et al., 2012). Moreover, it would allow the new IT hires to be able to have access to it immediately for a quick refresher before, during, after, and in between subsequent trainings, as well as during the application of the actual work (Coultas et al., 2012; Grossman & Salas, 2011; Salas et al., 2012).

Project Genre

The project genre of job aids was chosen because of its ease of access and personalization, as well as its low cost implementation. Florez-Arango (2009); Florez-Arango, Iyengar, Dunn, and Zhang (2011); Grossman and Salas (2011); Leberman, McDonald, and Doyle (2006); Rosset and Schaffer (2007); and Salas, Tannenbaum, Kraiger, and Smith-Jentsch (2012) indicated that providing learning support and learning transfer during and after training was important for increased performance improvement and reduction of errors through job aids. Learning transfer was the crux of all learning and was best when it met the requirements of the context and learner, not just as a standard set of procedural guidelines. Job aids assisted in "reducing the mental workload required to apply new skills to the workplace" (Coultas et al., 2012; Grossman & Salas, 2011, p. 114). They were performance tools that gave employees immediate information, built during the needs analysis of the training process by both the trainer and later the new hire. This allowed the trainer and new worker to use it for different tasks that were complex or detailed in nature (Gladney, 2011; Rossett & Schafer, 2007).

Job aids helped in the ongoing support of the new IT recruits' learning curve. In addition, the intentions of job aids were to assist new employees with their job performance and to facilitate learning while increasing adherence to protocols (Florez-Arango, 2009; Florez-Arango et al., 2011; Grossman & Salas, 2011). According to Kopp, Desiderio, and McAtavey (2010), Grossman and Salas, and Coultas, Grossman, and Salas (2012), job aids came in many different types from procedural, to informational, in addition to decision-making and coaching job aids, which usually were designed as decision support systems and manuals, to provide new hires with the information needed for different tasks.

Procedural job aids provided the user with systematic instructions that detailed how to complete a task, such as installing a faucet (Coultas et al., 2012). These types of job aids included feedback to show what each step should look like within the process. Informational job aids offered users with materials similar to on-the-job training manuals and reference books. These were critical for when memorization was not possible, and/or the reduction of cognitive overload was imperative, such as an airplane maintenance manual or inflight plan. In addition, they enhanced performance "by making pertinent job information easily accessible" (Coultas et al., 2012, p. 518). Decision-making and coaching job aids presented the user with information to direct the person to "think a certain way in order to determine the best decision or solution to a problem" (Coultas et al., 2012, p. 519). These types of job aids were considered training aids because they could be used before, during, and after, and they stipulated learning opportunities benefitting future performance. The uses of job aids were to provide low cost and time

saving techniques to supplement and support learning (Kopp, Desiderio, & McAtavey, 2010).

All three types of job aids would benefit the UCC's new IT hires. Depending upon the tasks required for the specific job or job tasks, the precise type of job aid that would fit this particular study would be a decision-making and coaching job aid. This was because the study focused on the combination of orientation and onboarding of new IT hires to accommodate immediate productivity and to increase and preserve technical knowledge. Decision-making and coaching job aids can be used throughout the training and after, and provide the user with cues to guide them in the direction to the optimal path for a solution (Coultas et al., 2012). Furthermore, it would enhance performance while guiding and amassing confidence because it would allow the newly hired IT staff the ability to learn and understand how to make critical decisions and solve problems (Florez-Arango, 2009; Florez-Arango et al., 2011; Gladney, 2011; Rossett & Schaffer, 2007; Tilaro & Rossett, 1993).

Addressing the Problem

In order to address the problem of the UCC using self-service tools to supply informal orientation to new IT hires required decision-making and coaching job aids to administer learning support. However, the company did not assess and evaluate new IT staff's current knowledge in order to proliferate and maintain their technical knowledge. Therefore, this caused a privation of satisfactory training and support. The assessment and evaluation would allow the newly hired IT personnel to become immediately productive and successful, keeping their jobs while remaining competitive within the

knowledge economy (Bradt & Vonnegut, 2009; Dunn & Jasinski, 2009; Graybill et al., 2013; Plunkett, 2010; Smith, 2010). This was because assessing and evaluating the training would allow the company to know and comprehend what aspects of the program did and did not work and would allow the company to guarantee the meeting of and transfer of learning needs. The findings of the study indicated the necessity for a formal approach to the UCC's training and for overall training improvement because across the department there was neither adequate or consistent follow up, nor suitable learning support.

Nevertheless, during those tasks that produced ambiguity, or those tasks that were troublesome to recall when required, performance support tools aided in certifying that information was there as required. Performance support provided the users, or new IT hires, with immediate information, continually enhancing performance. The UCC would be able to use the performance support tools to guide the learning of their new IT employees and offer insight into the culture, obtain experience and feedback, increase training, and improve their orientation by the addition of onboarding (Coultas et al., 2012; Kluge et al., 2013; Salas et al., 2012).

Solution to the Problem

Without learning support, Salas et al. (2012), Ebbinghaus (1885/1913), Averell and Heathcote (2011), Lanese and Nguyen (2012), and Ohno et al. (2011) all agreed that when employees begin to forget their learning, they did not use what they learned on the job. According to Lim and Morris's (2009) research, they indicated the importance of ensuring that learners were able to acquire and transfer their learning to determine

whether the training was successful. To increase and retain learning, learning transfer was important for more than just retention, but for the applicability of learning (Lim & Morris, 2009). Learning transfer was the process by which people take what they learned in one setting and were able to apply it to another, thereby using the information they learned to become more productive (Hager & Hodkinson, 2009; Leberman et al., 2006). The use of job aids would assist in it being proffered:

> as a cultural artifact that can provide a snapshot of the culture from which it operates. This can be of value because viewing the job aid within a broader perspective of social history may enable…researchers and practitioners to reflect more critically on training and development vis-à-vis social responsibility and the corresponding social justice. (Kopp et al., 2010, p. 210)

By offering posttraining support, new IT hires have the opportunities necessary to practice their learning, and use their knowledge on the job for better performance and increased learning and learning retention. Using job aids, specifically decision-making and coaching job aids, would provide the newly hired IT employees with materials that offer questions and ideas to learn, through guidance, how to become problem-solvers. This was especially significant since, according to the participants of the study, one of the main aspects of IT was the ability to think critically in order to solve IT problems. Therefore, the decision-making and coaching job aids would support current and future learning of the new IT hires by reducing cognitive overload while increasing and retaining technical knowledge.

Review of the Literature

The purpose of this literature review was to explore how a transfer of learning occurs through job aids, the project (Appendix A), that assisted in providing a solution to the problem of this study. This review included books and articles explaining the history of performance support and job aids, then books and articles explaining the multiple types of performance support tools available, as well as the benefits of performance support and job aids. Lastly, in this review, it was explained how the theory of knowledge management and the research supported job aids.

The literature review came from conducting searches using the Walden Library and Google Scholar to find books, articles, dissertations, and electronic articles on the specifics of job aids and performance support. Within the Walden Library, SAGE, ERIC educational database, EBSCOhost, and Elsevier were used to find articles pertaining to job aids and performance support. Some of the terms used to conduct the search included: *benefits of job aids*, *history of job aids*, *performance support tools*, *history of performance support tools*, and *types of job aids*. This resulted in a large amount of articles that mentioned job aids and explained the types of job aids available; however, not many focused specifically on job aids or performance support tools and their purpose in learning support as well as the amount of articles available grew scarce the more recent the year. In addition, the articles or books explaining what a job aid was or entailed was limited. To find more articles, books, and dissertations that were from 2010 through 2013 required using the terms of *visual aids*, *visual support aids*, and *infographics*. Then, the search terms used to gather information about knowledge management and job aids

included *knowledge management and job aids* and *knowledge management and performance support tools*. This was to discover how the theory of knowledge management related to the use of performance support tools; however, rather small quantities of articles were accessible.

The books *Job aids: Basics*, *Handbook of Human Factors and Ergonomics*, and *Infographics: The Power of Visual Storytelling*, as well as others were purchased or borrowed from Amazon. This review of the literature began with a look at the history and definition of performance support tools, specifically job aids, and discussed the different types of job aids frequently used. This review included a discussion on other performance support tools available and included a discussion exploring the benefits of job aids, and lastly, how the theory of knowledge management and current research supported the use of job aids.

Performance Support: What are Job Aids?

Used since prehistoric times when pictures adorned the walls of caves, job aids explained how to skin an animal for food or how to tend the fires (Rossett & Schaffer, 2007). Since then, humans have always generated graphic representations to present information. It was during the Crimean War in the Victorian Era that Florence Nightingale used job aids to explain how health and hygiene were important for the soldiers, proving their efficacy (Lankow, Ritchie, & Crooks, 2012). Job aids were products or devices designed to enhance performance in order to extend physical, cognitive, or social capabilities regardless of whether the person was working in the field or on a plane (Florez-Arango, 2009; Florez-Arango et al., 2011; Kluge et al., 2013). In

addition, job aids were based upon the use of multiple formats and media while they comprised many different forms, and took the designs of a 3D model, a checklist, an Infographic (abbreviation of information graphic), or a troubleshooting guide (Florez-Arango, 2009; Jackson, 2012; Lankow et al., 2012; Willmore, 2006).

According to Jackson (2012), job aids were more of an instructional tool to aid in the process of providing methodical instructions for on-the-job training and popularized during WWII for an efficient and quick way to train new recruits. Lankow, Ritchie, and Crooks (2012) noted that Fortune magazine was one of the most-recognized and early purveyors of job aids. It was during the 1930s and 1940s that Fortune magazine created and made job aids popular for editorial purposes. Accordingly, the study and development of job aids mostly took place in scientific and academic research to display the differing sets of data for readers' analyses. Since then, they have been widely used from academics to modern marketing (Lankow et al., 2012). Job aids were a type of repository of information that was useful throughout training and for displaying information, long after the training had ended (Tilaro & Rossett, 1993). A job aid was "a repository for information, processes, or perspectives that is external to the individual and that supports work and activity by directing, guiding, and enlightening performance" (Gautier-Downes & Rossett as cited in Willmore, 2006, p. 10).

Job aids were not intended to provide learning support to all types of learning problems or to close all types of performance gaps, they were to present information in a more readily and easily accessed manner (Cooper et al., 2010; Jackson, 2012; Willmore, 2006). However, job aids did not fix all issues unless the issues described were in direct

relation to the lack of knowledge of the changes within a system or procedure (Coultas et al., 2012; Salas et al., 2012; Gladney, 2011; Rossett & Schaffer, 2007; Tilaro & Rossett, 1993). According to Cooper et al. (2010), job aids also provided users with the acquisition of skills and attributes while interactive job aids, such as those on mobile phones, reduced the fatigue of the worker, fatigue or clerical errors, and the perceived workload, while increasing productivity (Florez-Arango & Iyengar, 2013). Job aids were to support learning in order to assist in the retention of copious amounts of information provided to new IT hires, or current employees, and helped with the recall of hard to remember information and during tasks without room for mistakes or uncertainty (Coultas et al., 2012; Cooper et al., 2010; Florez-Arango, 2009; Florez-Arango et al., 2011; Grossman & Salas, 2011; Kluge et al., 2013; Rossett & Schaffer, 2007; Salas et al., 2012 Tilaro & Rossett, 1993).

Job aids were, however, a critical tool for supporting learning and included a range of interventions based on six critical categories in order to determine the cause of the performance gap and to contribute to the understanding of job aids. The six critical categories included (Willmore, 2006, p. 8):

Figure 7. The Six Critical Categories of a Job Aid from Willmore (2006). © ASTD. Used with permission.

Based on the six critical categories, job aids would deliver readily accessible information to new IT hires so they can understand their roles and they would proffer precise information on the IT procedures necessary for them to know to become successful within the UCC. However, before embarking upon creating a job aid, the developer should look at the types of job aids available. Then, depending upon the type of job and necessary tasks, the person would then decide which format and form would be best for the development of the job aid. According to Florez-Arango (2009) and Rothwell and Kazanas (2008), there were multiple formats to choose from, the most popular being checklists, decision aids, procedure manuals, and work samples (or worksheets). Willmore (2006) argued that there were ten formats to choose from, and based upon the literature, those ten formats would fall under the three main types as discussed by Coultas et al. (2012) – procedural, informational, and decision-making and coaching job aids.

Procedural. Procedural job aids detailed methodical instructions on how to complete a task and illustrated the required sequence of steps. These types of job aids required feedback to and from the user in order to guide their development (Coultas et al., 2012; Kluge et al., 2013). The formats associated with procedural job aids included reminder, match, step, checklist, and worksheet (Florez-Arango, 2009; Salas et al., 2012; Willmore, 2006). Considered the simplest type of job aids, the first type of job aid, reminder job aids, prompted the performer's behavior with a simple set of instructions. The information used for reminder job aids were not usually structured, did not have a specific data range, did not depict a process or procedure, and did not include a specific

sequence. The next type of job aid was match job aids. Match job aids, also known as work samples, provided the user with an example or model to compare to show the user what the final product should look like. However, they did not concentrate on what ways or how to accomplish the task, but rather an example of what should be the result (Rothwell & Kazanas, 2008; Willmore, 2006). Step job aids, though, focused on the sequence or the correct order of a job or task and were used when the work necessitated smaller steps critical for success with only one path from start to finish. This type of job aid was specifically for those users starting at the beginning of the process, or for when it was easy to get the steps out of order (Jackson, 2012; Rothwell & Kazanas, 2008; Willmore, 2006).

Another procedural job aid included checklists. Checklists served the user as a reminder of the tasks and items to complete or inspect, similar to reminder job aids, yet checklists were not comparisons. They were usually simple in design and widely applicable where the job called for the user to mark or check off the completed work. This contrasted from step job aids because in step job aids it was critical to complete the tasks in sequence. Conversely, with checklists, the sequence did not matter (Jackson, 2012; Rothwell & Kazanas, 2008; Willmore, 2006). The next type of procedural job aid included work samples, also known as worksheets, or calculators. Worksheets presented a format for a specific type of calculation and typically kept the work neat to prompt the user of the organization for the calculations. In addition, worksheets minimized errors usually caused by sloppiness or clerical errors that also implied sequences. However, they were not always explicit in their direction and implied one path or approach in order

to complete the material (Florez-Arango, 2009; Rothwell & Kazanas, 2008; Willmore, 2006).

Informational. Informational job aids included information to recall facts that related to names, locations, dates, and times relevant to the job or tasks associated with the job. These types of job aids were similar to on-the-job training materials, such as user manuals and reference books. Using informational job aids included the essential reduction of cognitive overload and/or when the memorization of critical information was not possible. Informational job aids included the formats of process tables and flowcharts or scripts (Coultas et al., 2012; Florez-Arango, 2009; Willmore, 2006).

Process tables and flowcharts showed the user how a series of actions connected and identified the work process with its primary use for integrated or interrelated tasks. Process tables and flowchart job aids were similar to step job aids - it showed the sequences required to perform the job or tasks. However, they were dissimilar in that process tables and flowcharts did not guide the user from start to finish. This type of job aid format served two purposes, (a) it was used to provide an overall view of the scope of work, and (b) they were useful when the starting point was unknown or for circular processes requiring feedback. Script job aids presented users with text that they were supposed to either follow or fall back on when working with customers. They were usually memorized and were there mostly as a contingency for a quick reminder or for confidence building. This type of format was useful when wording precision was of the utmost importance or when the content frequently changed (Jackson, 2012; Willmore, 2006).

Decision-making and coaching job aids. Decision-making and coaching job aids offered information to guide people to the best decision or solution to a problem with varying steps. Used before, during, and after training programs, these job aids benefitted future learning for new hires (Coultas et al., 2012; Kluge et al., 2013; Rose et al., 2012). Included within these types of job aids were decision tables, troubleshooting diagrams, and data arrays (Willmore, 2006). Decision tables included the information necessary to aid in sorting through various options available with which its applications consisted of coming to a conclusion or for an evaluation without a specified start or end. This type of job aid provided users with the ability to distinguish from the options available to pick the correct course of action and to discriminate between the offered data, such as to determine the critical data or between multiple variables (Jackson, 2012). Decision tables were more effective when complex tasks involved great amounts of data and were used "to simplify a complex series of factors…. [and] for new performers" (Willmore, 2006, p. 31).

The next type of decision-making and coaching job aid was a troubleshooting diagram. Troubleshooting diagrams assisted users with systematically identifying problems or the answers to those problems and consisted of a series of decision tables following a sequence or process to narrow down the problem. This type of job aid provided a series of decision diagrams at multiple levels with each choice taking the user to another conclusion, repeating until the problem had been defined or resolved. Troubleshooting diagrams included the process or sequence required to analyze the information and was highly complex in nature while following an analytical process

(Willmore, 2006). Finally, data arrays often provided the user with a body of data displayed in a way for the user to discern the relevant information. The material involved would be difficult for new employees or users to memorize, but did not offer guidance. This job aid format was for acquiring the appropriate information at a glance when required (Jackson, 2012; Willmore, 2006).

Other Types of Performance Support Tools

Job aids were one type of performance support tool necessary in assisting learning transfer to new IT hires; yet, job aids were not the only type of performance support tools available for use within a learning setting. According to Salas et al. (2012), other learning support tools included the creation of knowledge repositories, web sites, or databases.

Knowledge Repositories. To begin, repositories provided information and data on a wide range of subjects and often taught a skill or offered knowledge (Willmore, 2006). Specifically, knowledge repositories consisted of electronic repositories, yellow pages, or forums to provide employees with access to information or knowledge. They were often used for sharing information that was codifiable within organizations and was easily retrieved and reused without the cost of recreating the same data. For knowledge repositories to be successful in offering the transfer of learning, it required the successful use by the employees and the successful promotion of knowledge repositories (Kankanhalli, Lee, & Lim, 2011).

Websites. Another type of performance support was websites. Websites were used to provide learners with information and data at a constant rate and supported

learning in multiple ways. Websites proffered learning and support without the limitations of space and time; therefore, allowing supplemental or complete learning (Hwang & Chang, 2011; Lan & Sie, 2010). With the proliferation of mobile technology, websites now provided people with more opportunities to learn without having to be in specific settings (Wang & Wu, 2011). According to Lan and Sie (2010), the availability and ease of access to learning support websites offered people knowledge and skills anytime and anywhere. The anytime and anywhere availability of websites "influence the learning activities in peer interaction, resource requirement, and content delivery" (p. 723). However, Kember, McNaught, Lam, Chong, and Cheng (2010) noted that delivery of learning over websites still used the traditional pedagogical approach employed within face-to-face learning usually associated with k-12 students. It was not always clear at how to supplement learning with websites and as Kember et al. proffered, this was because there was not a common model for Internet utilization, making it difficult for general implementation.

Databases. The last type of performance support tool discussed was databases. Databases were similar to knowledge repositories in that they housed and allowed for the sharing of data and information, such as reusable knowledge (Eisenstadt & Vincent, 2000), to provide easy sharing of the content created within the tool in terms of collaborating and dissemination of the content while providing learners with low-cost alternatives (Al-Zoube, 2009). According to Park (2011), databases provided learners with self-directed learning and permitted them to search for and gain knowledge to determine if the information from a database related to their learning needs. However,

databases provided such a large amount of information that it would not provide immediate access to the required information without spending extra time or money.

Analysis of Research

Although there are a multitude of performance support tools, job aids fit the best. This is especially because the problem was the lack of adequate training and support due to the UCC using self-service tools to provide an informal orientation for new IT hires. The missing assessment and evaluation of their current knowledge did not allow the company to increase and retain new technical knowledge. Therefore, the whole purpose in providing onboarding to new IT hires was to provide them with a sense of the culture, as well as to obtain the skills, knowledge, and attitudes required to become successful employees. With new IT personnel, they needed to understand and learn about development and procedures used within the new company or their new role within the same company. Performance support should not be an afterthought, but thought of during the process of development. The "access to performance support during the assessment phase should not be viewed as a crutch but as an instructional method to reinforce adoption, transfer, and relevance of performance support" in order to aid in the learning transfer (Lanese & Nguyen, 2012, p. 20). Since technology is dynamic, without the addition of performance support, specifically job aids, newly hired IT staff would possibly forget their learning, causing them to decrease in their performance as well as forget their training (Salas et al., 2012).

The additional training required to increase and retain learning of the new IT hires required learning support, as indicated by the results. The results of this study indicated

the need for more support for new IT hires' learning. In addition, and according to researchers, companies should provide augmented support that assisted in the retention of training (Coultas et al., 2012; Salas et al., 2012; Gladney, 2011; Rossett & Schaffer, 2007; Tilaro & Rossett, 1993). Moreover, job aids could provide the new IT worker with the sense of the culture and enhanced performance through communication of the expected steps, thereby reducing their anxiety and promoting their confidence (Kopp et al., 2010; Willmore, 2006).

Therefore, the genre of job aids, a type of performance support tool, was appropriate to the problem because performance support tools provided brief information to new hires for effective use of time and recall. Job aids, then, would increase and support the retention of new technical knowledge when the sequence was critical, worker errors were high, the information frequently changed, the task required massive amounts of information, or if it were complex in nature (Coultas et al., 2012; Florez-Arango, 2009; Kopp et al., 2010; Willmore, 2006).

Criteria and Theory

The criteria used to guide the development of the project included the theoretical framework of knowledge management. This was based upon the similarities between the importance of sharing and disseminating information for the purpose of ease of access and for finding information when needed. The formal definition of a job aid was it provided just-in-time information to the users while it enhanced their performance (Coultas et al., 2012; Florez-Arango, 2009; Florez-Arango et al., 2011). The theoretical framework of knowledge management discussed the need for shared and disseminated

information to the right people, at the right time, in the right approach, and in the right language to enhance performance, productivity, and innovation (Atwood, 2009; Kane et al., 2009; Laal, 2010; McElroy, 2002; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Sallis & Jones, 2008). Knowledge transfer, then, depended upon the type of knowledge needed for the task. The amount of support required to bring them up to speed, as well as ensuring the provision of an understandable language, depended upon where the learner was in their learning, such as a novice or experienced (Chen & McQueen, 2010). Furthermore, knowledge management (KM) required the use of a repository of information to ensure the ease of access for people to use and share in order to increase the knowledge of the entire company for future use. Job aids, in addition, were types of information repositories to make information readily and immediately available (Coultas et al., 2012; Farrington, 2011; Grossman & Salas, 2011; Shrivastav & Hiltz, 2013; Willmore, 2006).

Based on the theory of KM, job aids fit within the confines of the study because they provided the new IT staff with the ability of quickly and easily obtaining compulsory information and the retrievability of information while reducing cognitive overload (Farrington, 2011). Job aids would allow for sharing and dissemination of knowledge for the purpose of immediate productivity, thereby increasing jobs and innovation (Coultas et al., 2012; Farrington, 2011; Grossman & Salas, 2011; Shrivastav & Hiltz, 2013; Willmore, 2006). Thus, the development of the project of job aids evolved from the responses to the qualitative analysis and from research of the previous and current reviews of the literature.

Development of Job Aids

Coultas et al. (2012) proffered that to develop a job aid; it first required conducting a task analysis of what knowledge, skills, technical data, and equipment were necessary. Then, after obtaining the information, a description and sequence of the steps required to perform the task(s) needed to be included within the task analysis. Once the steps were completed, it was then essential to choose the type of job aid and format. After completing the development, the next step would be to evaluate the job aid for effectiveness as well as periodic updates when information or procedures changed within the process or company (Coultas et al., 2012).

Development of a job aid usually began with a trigger, the process of which was important to verify that people did not take shortcuts. Shortcuts during the development stage would lead to unused job aids, they did not work, or were inappropriate for the task for which it was created (Wilmore, 2006; Rose et al., 2012). According to Willmore (2006), it was critical to be methodical in the development of the job aid in addition to being consistent. To develop the job aid, Willmore and Rose, McKay, Norman, and Rose (2012) noted that it took several steps. Both studies mentioned the need for experts to inform the developers of the necessary information required for the task and user data. However, Willmore argued that there were nine critical steps to develop a job aid as shown in Table 11 (p. 58-65):

Table 11

Nine Critical Steps

Collect task and performer data	Defined the tasks and what was known about the user and work situation. Task and needs analyses were performed to identify the requisite steps and an understanding of the work. Addressed the speed needed to perform the task, the frequency (how often the task would be done), the complexity, consequences of mistakes, barriers of environment, stability (frequent changes), and the difficulty (was the work easy or difficult).
Confirm that job aid was appropriate	This step determined whether a job aid was appropriate or if the developer should use another option.
Determine the need for training support	Many job aids require training on the use of the job aid for its effectiveness and would test the job aid to determine if training was required
Select the appropriate format	The task analysis results would determine the format chosen. After analysis of the steps involved, which included completing the work, necessary skills, supports, and the work situation, the developer would choose the format.
Design and develop	Requires project management skills to work effectively with the subject matter experts (SMEs) Constant and consistent feedback this phase was easier – iterative process It required the task analyses being done correctly.
Validate the job aid	This step required the piloting of the job aid to attest to its efficacy once implemented.
Troubleshooting the job aid	This step discussed the unanticipated factors revealed during the validation phase to provide adjustments to the design. Staying focused during this phase would be a possible challenge due to the efforts to satisfy the different views. (table continues)

Roll out	Validation and troubleshooting occurs and production of the job aid and its provision to the users. Discourse must occur in order to ascertain the right approach for the job aid, which varied from organization to organization. Additionally, proper roll out of the job aid, which included buildup, explanation, support, and encouraging usage, was imperative to confirm the job aids' use. Otherwise, without those additional steps, the job aid would not be used.
Maintenance and upgrades	Job aids would begin to fall into disuse. Additionally, maintenance and upgrades involved providing users with updated or replacement copies It was important to discuss who kept track of the number of copies provided, where to store the extra copies, and who was responsible for the maintenance and updates. Formative evaluation must be a part of the design and development of the job aid while, once released, a summative evaluation must be used to determine the need for replacements or updates.

The design of job aids required many steps to assure the best use. Those steps facilitated in the understanding of when their use was necessary, such as when there was an abundance of information, it was too complex, too challenging to use to perform the tasks, or for when vagueness was not an option (Coultas et al., 2012; Kluge et al., 2013; Salas et al., 2012). Rose et al. (2012) stated that companies who designed and used decision and coaching job aids, based upon information provided from SMEs, had new hires able to function and develop their knowledge at a similar level as seasoned experts. Because of the amount of information that was vital to new IT hires for their success, the

provision of a job aid would enable them to retain and increase their knowledge, making them immediately productive and innovative.

Implementation

The implementation of the project would involve the evaluation of existing resources, potential barriers, timetables for implementation, and the roles and responsibilities of the students (in this case the new IT hires) and of others. It would allow for a smoother transition for new IT hires and current employees if the focus were on their current resources, the barriers, timetables, and roles and responsibilities. Lastly, the implementation of this project would depend upon the input from the stakeholders within the UCC based on this study's findings and resulting project.

Potential Resources and Existing Supports

In order to implement job aids, it is necessary to understand what potential barriers might exist as well as the existing resources. Historically thought of as a complementary or supplementary intervention to the training proffered, performance support usually took place after training had commenced to support and reinforce key information. However, by focusing on the end rather than the beginning and embedding the needed support before, during, and after, it ensured the increase and retention of learning (Lanese & Nguyen, 2012). Since the UCC already had in place online self-service tools for their HR practices, it would make sense to continue using their self-service tools as a knowledge repository and then include the necessary information and sections as a means to create different job aids with mobile access.

Since the company is a UCC, the company would have experienced IT workers within their offices to use as potential SMEs, and for newly hired IT workers to become successful employees, these potential SMEs would assist in finding and gathering required information. The UCC supplied informal orientations that created potential resources to use to gather more material based upon the basic information required for recently hired IT staff to adjust.

Potential Barriers

Participants of the study were marginally satisfied with the training provided to new IT hires based on the findings reported in Section 2. The training offered provided only a small portion of what information and data were vital for the effective assimilation of new IT hires into the company. Currently, the company uses self-service tools to provide an informal orientation and does not have adequate communication and feedback channels to assess and evaluate their current learning to meet their learning objectives or to transfer learning. It was essential to first assess and evaluate the learning (Bradt & Vonnegut, 2009; Plunkett, 2010; Smith, 2010), for it would make it challenging to guarantee piloted and edited job aids for formal implementation. Therefore, without first updating and improving the initial training offered, creating the job aids would provide only a small solution to the problem.

Since the UCC operates in multiple countries, obtaining appropriate buy-in and support from the management could be a potential barrier for implementation. Some managers would rather only to provide training. Some managers might argue that there was no need for the steps to develop a good job aid or for the use of a job aid at all

(Willmore, 2006; Rose et al., 2012). There could be resistance from the users themselves in using the job aids, such as time constraints that could curtail the development, because in order to provide users with job aids that provided optimal support and learning transfer, it required time to implement the final draft. However, because formative and summative assessments required input from the users and SMEs, this would add additional time to the development of the job aid; and since the UCC is a global company, gathering the required information would take time due to the time differences and constraints.

Proposal for Implementation and Timetable

To create and develop optimal job aids, it required time and effort to confirm that the correct and best information was gathered. Rushing through the nine steps essential for the development of job aids would be impossible because it depended on the people involved with the planning, implementation, and maintenance. Some of the timeline would be spent gathering and discussing the information collected while assessing and evaluating its usefulness and appropriateness for learning support while some of the other aspects of the timeline would consist of the formative and summative assessments, as well as revisions and more piloting to ensure the best possible product for learning transfer (Willmore, 2006). Therefore, based upon the steps required for development, job aids would depend upon the feedback, mandatory processes, and interests of the stakeholders as to the timeline for implementation.

Roles and Responsibilities

The HR department at the UCC would be primarily responsible for the implementation and for the development of the job aids to assist new IT hires. It was clear, based on the surveys conducted, that the HR department controlled the learning and training provided by the company; thereby, being the source of the resources, information, and data required. They would play a role in obtaining the buy-in from the users and the company's executives to ensure managerial support. The learner's roles and responsibilities necessitated providing feedback on the job aid during the formative and summative assessments throughout the development and for maintenance. This also included using the job aid to enhance their learning and learning transfer.

Project Evaluation

Evaluation of the job aids would provide managers and stakeholders the ability to understand its usefulness and the obligatory changes necessary to ensure that it continued to provide the set goals (Lodico et al., 2010). Evaluation was about determining the current progress, making the progress better, and determining the future progress. Evaluations, therefore, become important because the design of job aids were to assess and evaluate the impact on performance, so that performance was improved (Willmore, 2006). Willmore (2006) noted that the creation of appropriate and practical job aids required the constant evaluation for continued support.

Type of Evaluation

During project development, a formative evaluation would be applied to understand what changes needed to be made for the improvement of the project, and to

understand how well designed the intervention was (Lodico et al., 2010). When collecting the data at the beginning, it would be useful to perform a summative evaluation to determine the understanding of the original data to create the job aid. It would also be useful to administer a summative evaluation at the end to certify that the intended impact did occur (Lodico et al., 2010; Willmore, 2006). Therefore, for this project, the type of evaluation required would be formative and summative.

Used in conjunction, formative and summative evaluations provided evaluators with the knowledge necessary to understand. Formative and summative evaluations also depended upon the type of information gathered, when delivered, and whether there were any necessary changes. Those formative evaluations, according to Lodico, Spaulding, and Voegtle (2010), collected participant data during the development stages for immediate changes, "to identify and address the issues or serious problems" plaguing the project or program (p. 320). Conversely, summative evaluation involved the collection of data to measure the outcomes and, in addition, how those outcomes related to the overall program or project (Lodico et al., 2010; Willmore, 2006).

Justification and Goals

Without formative and summative evaluation, it would be difficult to understand if the created job aids matched the problem, or the overall goals, of the project. Some job aids were fashioned as an inclusion during the development of training for support, other times they were created as a necessity for learning improvement, yet other times they were produced just because. Either reason for the creation of job aids, it would be impossible to understand the return on investment (ROI) of built job aids without

implementing evaluations from the beginning. Therefore, even without a specific trigger for the creation of a job aid, the evaluation process must start prior to the development and data gathering due to the importance of knowing the critical targets that the company sought to improve. Those critical targets provided developers with the information necessary to understand what to evaluate. The use of formative and summative evaluation was because job aids were not only designed using those techniques, but because job aids were to improve learning (Willmore, 2006). Additionally, formative and summative evaluations were continual processes of clear and measureable outcomes, providing many opportunities to accomplish the outcomes of the project while using them to assess learning in order to make those changes or improvements (Suskie & Banta, 2009).

The overall goals of the formative and summative evaluations were to provide the company and the creator of the job aids with the information to know if they provided improvements to new IT workers' learning. The formative evaluations would determine whether the task analysis and drafts of the job aids supported the new IT hire with the skills and information necessary to perform their jobs as well as providing the developer of the job aid with feedback to determine its usability. Even if it imparted the necessary information to the new IT personnel, it must be in a format that was conducive for learning purposes.

The more specific overall goals would depend upon the information the UCC required to develop the different job aids and to assist the new IT hires' learning with the basis of some of the goals depending on whether the job aids provided them with enough

support to understand their specific roles and responsibilities. Overall goals of the summative evaluation of the job aids would be to determine if the newly hired IT workers understood where to find specific information for their roles and included if the new IT hires knew where to go to for help and how to contact different people within the company for obtaining information. Afterwards, a summative evaluation of the job aids would take place after each roll out to guarantee performance improvement and for the required updates. Lastly, if permissions were obtained and granted by the UCC, the description and the sample job aid would be given to the UCC's HR department in order to determine if they wanted to implement job aids as a support for their new IT employees' learning (Lodico et al., 2010; Suskie & Banta, 2009).

Implications Including Social Change

Local Community

Job aids, whether they were interactive or static, were necessary tools that delivered learning support to new and seasoned employees. Job aids were tools that could reduce the amount of training required for getting the UCC's new IT hires up to speed quickly, making them cost effective solutions for many different types of performance and learning gap issues. Their intended design included support to learners on specific tasks related to their jobs and responsibilities (Coultas et al., 2012; Kluge et al., 2013; Salas et al., 2012; Willmore, 2006). Rose et al. (2012) proffered that "novices can recognize patterns of cues and relationships between cues, and they can structure their existing knowledge and newly acquired knowledge to mimic these patterns with little or no explanatory feedback" making job aids highly beneficial for new IT hires (p.

8). This then assisted new IT employees in being able to focus their memorization on the correlated technical tasks that required higher order thinking skills (Wang, 2012) because the UCC only uses self-service tools as an informal orientation (Brown, 2010), leaving out imperative support for their learning. Therefore, through job aids, the UCC would be able to ensure that newly hired IT staff were increasing and retaining their learning and were immediately productive to allow for greater innovation.

Far-Reaching

Although this project provides local implications for increasing productivity and innovation, as well as jobs, for new IT hires, this project also has far-reaching implications as well. This project would provide companies with the knowledge of how to provide cost effective strategies to assist their new IT staff, and all new hires, in retaining and increasing their technical and corporate learning through learning support. Training was the one factor that provided companies with the ability to bridge the gap between knowing, application, and the skills needed within a just-in-time model for productivity. Job aids provided the support needed to bridge that gap (Dunn & Jasinski, 2009; Rothwell & Whiteford, 2011; Shehabat et al., 2008).

The example job aid (Appendix A) shown would indicate to several different types of companies how job aids increased learning and learning retention for their new personnel. Within this study, however, it provided an example of what new IT hires needed to know in order to become successful employees. Braun, Catalani, Wimbush, and Israelski (2013); Florez-Arango (2009); Florez-Arango et al. (2011); and Jones et al. (2012) indicated the importance of job aids because they helped the medical community

by increasing their learning, increasing their adherence to protocol, and reducing errors. Whereas Rose et al. (2012) exhibited how novices with access to senior level information were able to think, react, and understand complex knowledge through job aids, signifying the importance of them to employees from the financial sector. Driscoll (2002) argued the importance of job aids to pharmaceutical sales people because they increased their selling ability. The literature on job aids specified their prominence and showed that job aids benefited multiple industries and departments. Therefore, using job aids to support training would increase the learning and learning retention (Florez-Arango, 2009; Florez-Arango et al., 2011; Grossman & Salas, 2011; Leberman et al., 2006; Rosset & Schaffer, 2007; Salas et al., 2012). Adding job aids would also increase innovation, which companies needed to compete and survive within the knowledge economy, thereby creating and retaining more jobs. IT is ultimately about problem solving, and with job aids, new IT hires from any company would be able to look at their current skill sets and demands and know that they did measure up to current global standards (Johnson, 2010; Rothwell & Whiteford, 2011).

Conclusion

Job aids provided users with the ability to increase and retain their learning through learning support. The results from this study showed the importance of not only providing training, but of providing adequate training with feedback and communication to ensure learning, as well as the provision of job aids to support that learning. However, without learning support, new IT hires, and other new hires, would not be able to retain and increase their learning, losing vital technical knowledge in the process. This is

critical for all companies to understand; otherwise, their training efforts would not provide the expected results, resulting in lost knowledge and, consequently, lost new hires.

Job aids were short, cost effective ways to support learning for new employees while still providing support for experienced staff. They were unobtrusive and came in several different formats, which depended upon the reasons behind producing a job aid. Furthermore, a variety of settings used job aids to offer quick and concise information to improve performance. The sample project (Appendix A) showed the information obtained from this study for new IT hires in a quick and concise way to understand what information they needed for success. The project outcome would benefit many companies and industries that offered training, such as technological or educational, to understand how using job aids as a learning support tool would increase and retain learning while reducing errors.

The following section, Section 4, is a description of the doctoral process. Included within the section will be reflections upon the doctoral study process and as a scholar, implications for future research, recommendations for future research, the strengths and limitations of the study, and what was learned based upon the analysis and importance of the work. Lastly, there will be a discussion on this study's impact on social change.

Section 4: Reflections and Conclusions

Introduction

Within studies, it is important to note what learning occurred, the strengths and weaknesses, and future implications to proffer a scholarly look at the phenomenon studied. This section is a discussion of the reflections and conclusions based on the experiences obtained from completing this study. It includes the strengths, limitations, and a scholarly discussion on the learning process. Lastly, there will be a discussion on the study's impact on social change and its future implications.

Project Strengths

Researchers have repeatedly explained, through onboarding and job aids, the importance of training and learning support. This project study offered potential solutions to what many researchers and companies debated in order to retain their new IT hires - the lack of adequate training and learning support, especially during recessions. Numerous articles stated the immense significance of retaining new hires and how that, without adequate training and support, many would leave with their knowledge. However, not many researchers addressed the consistent need for assessing and evaluating current and future knowledge of new IT staff based on the theoretical framework of knowledge management (KM). Therefore, one of the strengths of this project study was that this study addressed and emphasized, in all types of companies, the need to provide onboarding. This study addressed the requirement to assess and evaluate the new IT hires' learning for immediate productivity and increased innovation because onboarding provided fresh IT employees with immediate feedback, the ability to

understand the culture, personalized learning, and a social network with which to obtain needed information. Explaining the differences between onboarding and orientation provided companies with the ability to understand how to offer their new hires, and specifically newly hired IT personnel, initial training to increase longevity and loyalty, as well as competition and innovation within a global knowledge economy. An additional strength of this project study was that this project provided explanations from those who were once new IT hires and their perspectives of what future IT employees needed for successful implementation and immediate productivity. As Graybill et al. (2013) stated that:

> Due to the high cost associated with recruiting new employees, the need for new employees to be fully functional and engaged as soon as possible, and the need to communicate performance indicators, [and] the need to share best practices is important (abstract, para. 7).

The project itself, the job aid (Appendix A), provided an additional strength for this project study in that it equipped readers with the understanding that training was an important aspect of innovation and productivity, however, without learning support, the time and money spent on the training would be lost (Averell & Heathcote, 2011). Averell & Heathcote (2011); Ebbinghaus (1885/1913); Lanese & Nguyen (2012); and Ohno et al. (2011) stated that people forget what was learned within a few days to a week. Creating a job aid seemed the natural progression to indicate the need for learning support, as well as the assessments and evaluations, of technical learning through onboarding. In addition to the informal orientation program, onboarding and job aids

together confirmed learning transfer at a low cost. This project provided a summary and visualization to understand the findings of this study and provided ways to use the project differently in order to provide learning support. Although this study fixated upon the compulsory learning for new IT hires, all new workers required the understanding of what the expectations, roles, responsibilities, and learning was necessary for their success: The provision of the job aid provided learning support while it ensured their learning retention.

This study communicated tips on some of the best practices for onboarding as done by Google and provided tips on how to create job aids that were not only suited to the task or job, but also suited to increasing performance to be used by education institutions, corporations, government institutions, and small to medium businesses. The study also stressed the importance of knowing the theory behind onboarding and job aids, which was knowledge management (also known as knowledge transfer) to understand that sharing, and disseminating knowledge, was necessary for learning improvement. KM theory presented companies with the ability to engage their employees in continuous learning, for the company's continuous competition within this knowledge economy, as well as supporting the understanding that job aids were not going to be the answer to all performance problems; however, it could reduce errors, fatigue, and increase new hires' knowledge to that of experts. Job aids were practical and cost effective performance support tools that assisted when information was missing or too difficult to understand. It was for companies looking to become change agents for learning support (Cooper et al., 2010; Coultas et al., 2012; Florez-Arango, 2009; Jackson, 2012; Kluge et al., 2013;

Lanese & Nguyen, 2012; Rossett & Schaffer, 2007; Salas et al., 2012; Tilaro & Rossett, 1993; Willmore, 2006).

The research process included creating a qualitative study that examined data from three different rounds of data collection. By comparing the journals, surveys, and interviews to each other and to the literature triangulated the data (Creswell, 2009, 2012; Glesne, 2011). Triangulating the data through three rounds of data collection provided this study with an additional strength, for it was contributing to an in depth understanding of how KM assisted and how onboarding delivered learning. Because I clarified the difference between orientations and onboarding, it promoted the inclusion of onboarding to the current orientation programs to increase learning through all sectors and departments. This study was grounded in the belief that when companies provided onboarding and learning support, it would result in positive social change because people would want to stay with their companies, thereby increasing learning, learning retention, longevity, jobs, and innovation.

Recommendations for Remediation

Limitations

This project has much strength; however, there were limitations to the project. The project's limitations stemmed from the focus of the study being only on former employees from an IT department at the UCC. According to Yin (1981, 2009), Merriam (2009), and Hatch (2002), the generalization of case studies to the greater population was not possible. Although Flyvbjerg (2006) argued that researchers who used case study approaches could generalize their studies, more researchers disagreed with that statement.

This single case concentrated upon the UCC and their former employees that were former new IT hires. By focusing only on former newly hired IT employees from a single company, it could differ from other hiring processes and from what knowledge would be required from the same or other departments at other companies.

Data collection methods requested information from people who were possibly recalling personal viewpoints from more than five years ago. Conversely, when dealing with events or incidents that happened years ago, people may not accurately recall the events or incidents in question (Yin, 1981, 2009). Another limitation of this project was that it concentrated on the creation of job aids that were specific performance improvement tools. Because of the specificity, job aids were not the correct solution to every type of performance problem. However, the majority of performance problems came from missing information or information that was too difficult to accomplish or remember without learning support.

Remediation of Limitations

In order to provide the new hires with learning and support, it required a concerted effort among the whole company. It led to using KM practices that encouraged knowledge sharing and dissemination to increase learning and learning retention. In order to provide remediation of the limitations, it would require using more than one department to gain an understanding of the different needs of new workers across the company, rather than focusing only on new IT hires. Using more than one type of company or more than one type of sector would alleviate some of the limitations within this study along with using more than one telecommunications or unified

communications company would also provide remediation and would assist in being able to generalize the study.

To remedy the research process it would include using documentation on the implementation of the self-service tools. Having the background on the implementation would have supplied a clearer explanation of why the company decided to move in that direction and what they had hoped to accomplish with their informal orientation. In addition, find out what their previous programs were to orient their new hires, if they had previous programs to compare and contrast to their current informal orientation. The process could have involved obtaining surveys and interviews from current employees and from other departments to provide another level of arguments for or against the addition of onboarding and job aids. This line of research could have offered a more in depth look to understand the implementation issues of onboarding programs and their current informal orientation: An important factor in understanding the why in order to better structure personalized onboarding programs that were more suited to the company's new hires.

The intent of this study was to explain the necessity of assessing and evaluating new IT staffs' current and future knowledge through onboarding to retain and increase learning at the UCC. However, another way to conduct the study could have been to highlight how self-service tools as an informal orientation actually could benefit new hires, more than just as a benefit to the company. Yet, literature consistently showed that assessing and evaluating learning for making changes to increase learning benefited new and current personnel. The self-service tools did not provide the company with

assessments and evaluations of the informally oriented new hires, causing a gap in practice as well as missing learning opportunities. Considering the expense of recruiting and hiring a replacement, companies needed to understand the obligatory nature of onboarding their new hires to reduce turnover and costs in conjunction with increasing their learning for innovation as well as for job and knowledge retention. Therefore, this study emphasized the positive outcomes when including onboarding to assess and evaluate new IT hires in addition to providing learning support.

Scholarship

With the provision of the positive outcomes and the in depth learning of onboarding and knowledge management (or knowledge transfer), it aided me in the understanding of scholarship. Scholarship provided the opportunity to delve deeply into a current problem for potential solutions and for discovering theoretical underpinnings. Likewise, scholarship was a discovery process of self to increase learning and critical thinking in addition to teaching me about writing clearly and concisely. At the onset of this project study, I wrote summarizations of what I read and lost much of the details within the research. However, by going through and writing out the details, I felt I gained more than just concise writing, but more improved writing. I believe that my writing skills improved to convey my thoughts better, along with the understanding that I still had room for improvement. It has provided me with guidance in how to address and discover solutions to problems that otherwise I had no understanding of how to accomplish. Moreover, it provided me with an understanding of how to use current research and theory to explain and offer recommendations to solve learning problems.

By creating this project, I learned how to connect the ideas and theories to my current and former work. It gave me the knowledge and impression that I could connect what I had learned and done throughout my jobs to the ideas found within the research. I had not thought of the importance of onboarding new hires, or even students, within the different industries or at how it related to learning and performance. However, as I began a discourse to discover the gaps in practice through reading the literature, I noticed how challenging it was to become acclimated to a new job and at how much of a difference it made knowing about roles and responsibilities from the beginning. I felt enlightened on a much deeper level. Additionally, I understood how to serve my students and coworkers so that they were successful through the provision of knowledge at the beginning, rather than at the end, or not at all. Using theory and research to analyze and explicate everyday practices, or lack thereof, provided me with the knowledge and appreciation of what I comprehended scholarship to be. I learned that I immensely enjoyed the processes of writing and researching and that it inspired my learning to understand how to connect theories to research and new concepts, as well as figuring out novel ideas for future research.

Project Development and Evaluation

The connections of new concepts and ideas to theories proffered the ability to create the project for this study. This was because the creation of the project involved reading and researching different options to find the best way to analyze and obtain the necessary information. I initially chose to create a quantitative experimental study to discover and conclude whether onboarding provided greater learning over orientation

based upon the theoretical framework of knowledge management. However, after developing the questions, it became clear that in order to discover what issues there were with a lack of assessment and evaluation as supplied by onboarding, a qualitative study would be more favorable. My data collection resulted in a lot of information that took time in order to read each piece of datum to understand what and how the participants' answered the questions. To analyze the data, I utilized several different methods as recommended by Yin (1981, 2009), Glesne (2011), and Creswell (2009, 2012), resulting in a rich analysis.

Obtaining the information for the journals proved a bit difficult, for many of the participants required reminders. Reading through them was a rather rewarding confirmation that I had created the study questions properly and that they aligned with the central problem of the study. However, the surveys were more time consuming and demanding in that most of the participants did not understand whether to answer based on their current or former roles. Once I explained that the responses to the questions were to be answered based upon their previous roles, it was a much smoother process. To acquire information from the interviews went smoothly, and because of transcribing and reading them repeatedly, the data results led me to see how it connected to the literature.

The data analysis of the study was enjoyable because of seeing the connections between the literature and the results. I made sure to take notes on the process and information I noticed, learned from reading different articles about the doctoral process. I worked hard to be objective and let the results emerge from the gathered data while making sure to write my thoughts during the process to observe and note my bias. To

show the outcomes of this study, I looked to other research, followed their examples of tables and figures, and included quotes from the participants within a larger, longer narrative to provide credibility. Merriam (2009) noted that qualitative studies tended to be long and tedious to read, thus I provided a concise and clear account of what I learned from the gathered data.

Due to the missing assessment and evaluation of learning at the UCC, and the resulting conclusions from the collected data, I had to determine how to culminate all that I had learned about onboarding into a project that made the most sense. What I learned during the process of creating the project was that it was troublesome to discover which project was the best and would emanate from the study. Picking the project at the beginning of the proposal stage was challenging in that it could change once I completed the actual research. At first, I was going to develop a white paper as the project, which would explain the best practices of onboarding, but when it was evident that I was not going to obtain permission to conduct my study at the UCC, the project changed and I wanted to create a project that was more creative to depict the study's results.

When the decision was made to conduct my study with former new IT hires that were former employees of the UCC, it did not seem accurate to create a project of best practices of onboarding without being able to implement it to provide a basis for researched and proven best practices. However, as I read more studies, articles, books, and dissertations about onboarding and learning, learning support kept appearing in the research. Since learning was about discovering new information and applying that new information to gain new skills and knowledge, it seemed practical to focus on learning

support. Learning new knowledge, attitudes, and skills are difficult to retain without learning support because it required application and retention (Grossman & Salas, 2011; Salas et al., 2012). Therefore, through the research, it made sense to create a job aid that would support the mandatory learning to assist in the use of the new knowledge.

I learned that there would be frustrations involved in the creation of research studies. Although the research was plenty, it was difficult finding the correct and acceptable direction, as well as trying to corroborate and/or refute the current research on the subject of onboarding. The creation and investigation of the study helped to make the connections of my previous learning to the different theories behind adult learning. Delving into the research opened up new thought processes and understandings about the needs of new hires. It was also interesting to note the differences between onboarding and orientation, which prior to this study I did not know there was a difference. I learned more about knowledge management, how it promoted learning, sharing and dissemination of learning, and the importance of it to compete within a knowledge economy because without the sharing and dissemination of knowledge, research would be a lonely endeavor.

Leadership and Change

Development of the project provided me with the knowledge of how to be a leader and change agent, as well as how to identify leaders and change within work settings. For instance, the UCC is a company that is one of the leaders in telecommunications and pioneered unified communications, making them a leader and change agent. The UCC creates technology to provide companies with the ability to

communicate however and whenever to collaborate and share knowledge for increasing learning around the world. Their work allowed companies from all different industries and from small to large to conduct business by using technology for open communications and innovations. They engaged people from around the globe in discussions to further their own learning (whether formal or informal) while they increased innovation, leading to new jobs, and consequently more learning.

Leadership and change involved the process of finding a gap in practice, finding the research, and conducting research to determine what would and would not work best. Creating the steps based on finding the knowledge that was available and distributing it, as well as knowing when to deviate from those steps, helped me to understand leadership and change. I had to be my own leader, learn to navigate my own research, and inevitably, my own personal changes. I learned how to be a better project manager, a better researcher, and understood the processes necessary to create and lead change to prepare me for future studies. Change is inevitable, and being able to withstand the changes to my study and find new avenues to use was a required learning objective.

By studying the UCC and their former employees, I was able to learn more of what it took to be a leader and to organize positive change. However, I obtained a deeper understanding of why some people were unable to continue in their jobs and why some stayed: A possible factor in changing the conversation from the skills gap to one of finding a learning solution. There were a multitude of factors that enabled a person to stay at their jobs, but having that initial training to understand why, who, what, how, and when from the beginning makes the difference between retained or lost new hires. I

became knowledgeable on how to provide leadership to ensure that other new employees, within my department, other departments, or other companies, have the knowledge and skills necessary to be successful in addition to having the ability to understand how to lead change.

Analysis of Self as Scholar

The ability to recognize and lead change contributed to the understanding of what it meant to be a scholar. Throughout the entire program, I learned that being a scholar meant hard work, dedication, and strength of self and family. This journey was substantial in that required a lot of devotion, commitment, and questioning of the learning that took place to assist with the progress of growth because of the necessary building blocks provided by Walden University. Being a scholar meant that I accomplished understanding how to analyze literature, data, and methods through the selection of the appropriate research design, definition of the problem, the expansion of knowledge through critical thinking, evaluation of data, and the presentation of results.

Analysis of Self as Practitioner

The expansion of knowledge and critical thinking, whether a person was a medical doctor, an IT programmer, or an educator, offered them the ability to become better workers. This was why companies continually realized that the investment in their workers through training provided them with increased knowledge and innovation, and thus more jobs. Therefore, being a practitioner of learning lent itself to constant improvements in methods and understandings of the tools available. Becoming a doctor

meant that I learned the gravity of lifelong learning, more than for increasing my own knowledge, but for the significance of lifelong learning to others.

Analysis of Self as Project Developer

Creating and implementing a project required the managing of the unique blend of leadership, change, and critical research while focusing upon a single goal. Having been a project planner/scheduler prepared me for the multitasking required to complete this project successfully. However, what it did not prepare me for was the aspect of how different creating this project was to those done in a work setting. Working on rather large business projects did not require as much research or even a deep understanding of the requirements. Conversely, creating this project, from start to finish, taught me how to engage in the extensive amount of research and theory application to contribute to the body of knowledge. This project taught me how to obtain a deeper appreciation of what was involved and, moving forward, how to produce a body of work that would affect positive change.

The Project's Potential Impact on Social Change

Producing research that would affect positive social change required comprehending the background of the phenomena studied. This study's impact concentrated on the current economy, also known as the knowledge economy, which required the constant effort of companies to learn continuously and innovate for competition, or become obsolete in the process. Many companies lost precious knowledge and, therefore, innovation when the provision of training, assessment, and evaluation was missing. During times of hard economic struggles, the first aspect that

companies got rid of was their learning and development; however, that exacerbated the problem of missing knowledge and learning. Then companies started to realize the necessity in keeping their workers and the debate of whether to use orientation, onboarding, or neither began. Companies used the terms interchangeably without researching and knowing the difference between the two and believed that training their new hires was a luxury not needed or that, through simple observations, they could discover what was expected.

From experiences, reading the literature, and from conducting this study, I learned a lot about the prominence of onboarding new staff. It was problematic for newly hired IT employees to understand the company's expectations during the course of their tenure at the onset of employment. Without assessing and evaluating the current and future learning respectively, the company would not begin to know whether the initial training (onboarding) or other training interventions worked. This was especially true of the companies that provided only the minimum information required, or nothing at all, to assist the new worker in the comprehension of their roles and responsibilities. This then led the new IT personnel to feel disconnected and possibly remorseful for taking the job. Therefore, onboarding, and subsequently training, was required of companies for them to compete on a national and global scale, and was what provided the new IT hire with the skills and knowledge to continue in their jobs. The phenomenon and necessity of onboarding new IT employees, and other new hires, shows no signs of diminishing, no matter the type of company or industry.

By conducting the research, I learned that primarily, training provided new staff with the ability to be immediately productive with augmented innovation for companies to continue being competitive, increasing jobs, and contributing to the global economy. Companies needed to change and recognize the importance of continued learning, starting with onboarding their new hires to set the example of expectations, a critical prerequisite in a knowledge economy. Because of how fast technology changed and the changes it made to societies, newly employed IT personnel required the ability to be immediately productive to contribute to their disciplines, jobs, and society as a whole. Therefore, studying the phenomenon of onboarding represented an opportunity to address the gap in practice of missing assessments and evaluations for learning improvement.

The augmentation of the addition of the job aid may only represent a small portion of the tools available to companies for use to improve learning and performance; however, the implications of the project provided them with the knowledge of how to increase and retain their learning. Onboarding was just one of many programs to implement in order to assist with assessing and evaluating new IT hires' current and future learning. Consequently, onboarding provided new IT hires with the knowledge, skills, and attitudes required for success in order to remedy the problem of lack of assessments and evaluations of current and future education for increased learning and knowledge retention. Job aids provided companies with the opportunity to use them for learning support, in order to offer a low cost way to solve the problem of a lack of information and lack of support required to perform their jobs. Although this study focused on new IT hires, this research would be applicable to all newly employed staff

from any company. Furthermore, this study would add to the knowledge base about the uses of knowledge management in the creation of onboarding, and that using job aids was an effective and efficient way to support learning. It is then my belief that this study is necessary to emphasize the continuous improvement, acquisition, and support of learning at the UCC in addition to all companies.

Implications, Applications, and Directions for Future Research

Although this study concentrated on former newly employed IT workers at the UCC, the implications would reach further than the current body of knowledge and research. The project and research supporting the project would accommodate companies, educational or business, with the knowledge to understand and implement ways to increase and retain the technical knowledge of new IT hires. Furthermore, it would provide them with the facts to increase and retain knowledge of the general new hires. In addition, the research and literature reflected upon in this study provided a model to assist other companies in the process of creating onboarding programs as well as the implications of the project, job aids, would be for learning support. Lastly, the process required to create the job aids could enlighten people on other gaps of practice at the UCC and other companies, and conjointly provide guidance on the solutions for other gaps of practice.

Applications of, and from, the learning could be distributed through seminars, peer reviewed articles, or coaching programs. This study provided me with an opportunity to teach at not only masters and doctoral levels, but to have the opportunity to create training and/or onboarding materials for companies as a scholar. The

applications of this study would also offer companies the opportunity to understand the significance of training and onboarding, as well as the benefits learning support offered to learners and new IT employees. The applications of this study would lend me, as a practitioner, with a model to use to implement future research.

The directions for future research begin with noting what was obvious. What was evident was the amount of research available on onboarding, on knowledge management, and on performance/learning support; however, most of the research focused on onboarding from the businesses' point of view explaining the cost benefits with very little on training and learning beyond immediate productivity for cost reduction. Most of the articles were from either a general or a medical viewpoint with very little research done on how knowledge management benefited learning for newly employed IT staff. There was even less mention of the requirement of performance support from 2010 on, except within the medical profession. Therefore, it was essential to discuss the reduced costs of training the employee, rather than finding, hiring, and possibly losing new hires in all types of companies. However, the concentration of this study was more on how the learning and learning support would help new hires become acclimated faster, as well as obtain immediate productivity. What was missing from the research was how the three disciplines were intertwined with each other and learning, and how they were important for the retention of more than just a company's new staff but also of their knowledge in order to not reinvent the wheel every time. Thus, future research should continue to address how they all participate in the increase of education and learning retention or to evaluate the onboarding program and the created job aid recommended by this study.

Another interesting study beyond the scope of this research would be how Software as a Service (SaaS) or Learning Management Systems (LMSs) encouraged knowledge management (or knowledge transfer), or how they affected the learning for onboarding new IT hires remotely, as having remote workers and cloud services are on the rise (Cuéllar, Delgado, & Pegalajar, 2011). Such as the study by Cuéllar, Delgado, and Pegalajar (2011) who studied the effects of an LMS on knowledge management ontologies. As a guide, that study could be used to evaluate an LMSs ability to use knowledge management and how it increased the participants learning. Malladi and Krishnan (2012) argued that SaaS can and does support IT-enabled innovations, which could be used to do a study on how that would impact the learning of IT professionals based on a theoretical framework of knowledge management for future research. Moreover, assess and evaluate the learning and amount of innovation within companies who outsource their training needs and compare it to other companies who keep them in house based on the theoretical framework of knowledge management. There are many avenues available and the excitement about future research includes the sharing and dissemination of knowledge to result in the improvement of learning.

Conclusion

The purpose of this study was to focus on what impact onboarding, along with orientation, could possibly have in increasing the learning and knowledge retention for new IT staff to be able to be immediately productive based upon former new IT hires' knowledge and experiences. Then, be able to use this research to help companies prepare their new IT employees for immediate productivity, increase their education and learning

retention, and the proliferation in innovation by assessing and evaluating technical knowledge.

Throughout the progression of creating this study, the process included learning about what it meant to be a scholar, a project developer, and a practitioner through research and the culmination of a project as a means of disseminating information. I gained a deeper understanding of the phenomena studied while learning how to connect researching literature, conducting the research, and creating a project.

References

Afiouni, F. (2007). Human resource management and knowledge management: A road map toward improving organizational performance. *Journal of American Academy of Business, 11*(2), 124-130. Retrieved from ProQuest Database.

Albinsson, L., Curtin, G., Forsgren, O., & Wall, M. (n.d.). *Creating and sustaining successful knowledge management in purposeful communities: Summary of key experiences from pioneers*. Retrieved July 21, 2011 from http://www.google.com/url?sa=t&source=web&cd=1&sqi=2&ved=0CC0QFjAA&url=http%3A%2F%2Fdownload.microsoft.com%2Fdownload%2F4%2F9%2F6%2F49635b5f-1c80-4a17-8800-8db8c31196d1%2FManaging%2520Purposeful%2520Communities.pdf&rct=j&q=sustaining%20knowledge%20management&ei=ImcrTtOHAofZ0QG96v3JCg&usg=AFQjCNHluX99ItX07z0e0oXh-cu47D_4hQ&sig2=90OL9u8f_rD4O-Y4c6WDNA&cad=rja

Al-Zoube, M. (2009). E-learning on the cloud. *International Arab Journal of e-Technology, 1*(2), 58-64. Retrieved from http://www.iajet.org/iajet/iajet_files/vol.1/no.2/E-Learning%20on%20the%20Cloud.pdf

Adler, S., & Stomski, L. (2010). Ropes to skip and the ropes to know: Facilitating executive onboarding. In R. Silzer & B. Dowell (Eds.), *Strategy-driven talent management: A leadership imperative*. San Francisco, CA: Jossey-Bass.

Athey, R. (2008). It's 2008: Do you know where your talent is? Connecting people to what matters. *Journal of Business Strategy, 29*(4), 4-14. doi: 10.1108/02756660810886953

Atwood, C. G. (2009). *Knowledge management basics*. Alexandria, VA: ASTD Press.

Averell, L., & Heathcote, A. (2011). The form of the forgetting curve and the fate of memories. *Journal of Mathematical Psychology, 55(2011)*, 25-35. doi: 10.1016/j.jmp.2010.08.009

Bali, R. K., Wickramasinghe, N., & Lehaney, B. (2010). *Knowledge Management Primer.* (2nd ed.). New York, NY: Rutledge.

Banville, V. E. (2011). *Gap analysis and on-the-job training* (Master's Thesis, University of Wisconsin-Stout, 2011). Retrieved from http://www2.uwstout.edu/content/lib/thesis/2011/2011banvillev.pdf

Batcheller, J. A. (2011). On-boarding and enculturation of new chief nursing officers. *The Journal of Nursing Administration, 41*(5), 235-239. doi: 10.1097/NNA.0b013e3182171c6a

Bauer, T. N., & Erdogan, B. (2011). Organizational socialization: The effective onboarding of new employees, in S. Zedek (Ed.). *APA Handbook of Industrial and Organizational Psychology, 3*, 51-54.

Berggren, E., & Bernstein, R. (2007). Organizational transparency drives company performance. *Journal of Management Development, 26*(5), 411-417. doi: 10.1108/02621710710748248

Bergstrom, E. (2012). Quality circles. In R. K. Prescott & W. Rothwell (Eds.), *Human resource management: Short entries* (pp. 370-373). San Francisco, CA: John Wiley & Sons.

Bhatt, G. D. (2001). Knowledge management in organizations: Examining the interaction between technologies, techniques, and people. *Journal of Knowledge Management, 5*(1), 68-75.

Bhatnagar, J. (2007). Talent management strategy of employee engagement in Indian ITES employees: Key to retention. *Employee Relations, 29*(6), 640-663. doi: 10.1108/01425450710826122

Bradt, G. B., & Tavis, A. (2010). Onboarding: An act of transformational leadership. *People and Strategy, 33*(2), 4-5. Retrieved from http://search.proquest.com.ezp.waldenulibrary.org/docview/763402981/fulltextPDF?accountid=14872

Bradt, G. B., & Vonnegut, M. (2009). *Onboarding: How to get your new employees up to speed in half the time.* New York, NY: Wiley.

Braun, R., Catalani, C., Wimbush, J., & Israelski, D. (2013). Community health workers and mobile technology: A systematic review of the literature. *Public Library of Science ONE, 8*(6), e65772. doi: 10.1371/journal.pone.0065772

Brewer, P. D., & Brewer, K. L. (2010). Knowledge management, human resource management, and higher education: A theoretical model. *Journal of Education for Business, 85*, 330-335. doi: 10.1080/08832321003604938

Brown, P. (2010). The power of HR outsourcing. *Strategic HR Review, 9*(6), 27-32. doi: 10.1108/14754391011078090

Boyacigiller, N. A., Kleinberg, J., Phillips, M. E., & Sakmann, S. A. (2004). Conceptualizing culture: Elucidating the streams of research in international cross-cultural management. In B. J. Punnett & O. Shenkar (Eds.), *Handbook for international management research*. (2nd ed.). Ann Arbor, MI: University of Michigan Press.

Bushardt, S. C., Glascoff, D. W., & Doty, D. H. (2011). Organizational culture, formal reward structure, and effective strategy implementation: A conceptual model. *Journal of Organizational Culture, Communications and Conflict, 15*(2), pp. 57-70.

Burke, L. A., & Hutchinson, H. M. (2008). A study in best practices in training transfer and proposed model of transfer. *Human Resource Development Quarterly, 19*(2), 107-128. doi: 10.1002/hrdq.1230

Chao, G. T, O'Leary-Kelly, A. M., Wolf, S., Klein, H. J., & Gardner, P. D. (1994). Organizational socialization: Its content and consequences. *Journal of Applied Psychology, 79*(5), 730-743.

Chapman, C. (2009). Retention begins before day one: Orientation and socialization in libraries. *New Library World, 110*(3), 122-135. doi: 10.1108/03074800910941329

Chen, F. & Burstein, F. (2007). A dynamic model of knowledge management for higher education development. 7th International Conference on Information Technology Based Higher Education and Training. doi: 10.1109/ITHET.2006.339762

Chen, J., & McQueen, R. J. (2010). Knowledge transfer processes for different experience levels of knowledge recipients at an offshore technical support center. *Information Technology & People, 23*(1), 54-79. doi: 10.1108/09593841011022546

Chiarini, A. (2012). Business process reengineering. In A. Chiarini (Ed.), *From total quality control to lean six sigma: Evolution of the most important management systems for the excellence* (pp. 25-27). New York, NY: Springer.

Chinowsky, P., & Carrillo, P. (2007). Knowledge management to learning organization connection. *Journal of Management in Engineering, 23*(3), 122-130. doi: 10.1061/ASCE0742-597X200723:3122

Clark, R. C., & Lyons, C. (2011). *Graphics for learning: Proven guidelines for planning, designing, and evaluating visuals in training materials*. San Francisco, CA: Pfeiffer/John Wiley & Sons.

Coloma, J., Parry, C., & Berdie, J. (2010). Transfer of learning guide. *Academy for Professional Excellence*. San Diego, CA: San Diego State.

Cooper, W., Leibrecht, B., Anderson, H., Topolski, R., Reeves, R., & Lickteig, C. W. (2010). *Full spectrum training and development: Soldier skills and attributes* (Research Report No. 1925). Arlington, VA: U.S. Army Research Institute for the Behavioral and Health Sciences.

Coultas, C. W., Grossman, R., & Salas, E. (2012). Design, delivery, evaluation, and transfer of training systems. In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics*. (4th ed.). Hoboken, NJ: John Wiley & Sons.

Condic, K. S. (2009). Using Second Life as a training tool in an academic library. *The Reference Librarian, 50*(4), 333-345. doi: 10.1080/02763870903096419

Conger, J. A., & Fishel, B. (2007). Accelerating leadership performance at the top: Lesson's from the Bank of America's executive on-boarding process. *Human Resource Management Review, 17*(2007), 442-454. doi: 10.1016/j.hrmr.2007.08.005

Creswell, J. W. (2009). *Research Design: Qualitative, quantitative, and mixed methods approaches*. (3rd ed.). Los Angeles, CA: Sage Publications.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. (4th ed.). Upper Saddle River, NJ: Pearson Education.

Crocitto, M. M., Sullivan, S. E., & Carraher, S. M. (2005). Global mentoring as a means of career development and knowledge creation: A learning-based framework and agenda for future research. *Career Development International, 10*(6/7), 522-535.

Cross, R., Thomas, B., Dutra, A., & Newberry, C. (2007). Using network analysis to build a new business. *Organizational Dynamics, 36*(4), 345-362. doi: 10.1016/j.orgdyn.2007.06.002

Cuéllar, M. P., Delgado, M., & Pegalajar, M. C. (2011). A common framework for information sharing in e-learning management systems. *Expert Systems with Applications, 38*(3), 2260-2270.

Dai, G., De Meuse, K. P., & Gaeddert, D. (2011). Onboarding externally hired executives: Avoiding derailment – accelerating contribution. *Journal of Management & Organization, 2011*(17), 165-178.

Dataware Technologies. (1998). Corporate executive briefing: Seven steps to implementing knowledge management in your organization. Retrieved July 21, 2011 from http://www.systems-thinking.org/kmgmt/km7steps.pdf

Davis, A., & Shannon, J. (2011). Set new hires up for success with the right orientation program. In A. Davis & J. Shannon (Eds.), T*he Definitive Guide to HR Communication: Engaging Employees in Benefits, Pay, and Performance*. Boston, MA: Pearson Education.

DBM, & Human Capital Institute. (2011). *Best practices for onboarding: Ensuring successful assimilation*. Washington, DC: Human Capital Institute. Retrieved from www.dbm.com/ca/en/doc/onboarding.pdf

Delen, D., & Al-Hawamdeh, S. (2009). A holistic framework for knowledge discovery and management. *Communications of the ACM, 52*(8), 141-145. doi: 10.1145/1516046.1516082

Diakoulakis, I. E., Georgopoulos, N. B., Koulouriotis, D. E., Emiris, D. M. (2004). Towards a holistic knowledge management model. *Journal of Knowledge Management, 8*(1), 32-46.

Dimitriades, Z. S. (2005). Creating strategic capabilities: Organizational learning and knowledge management in the new economy. *European Business Review*, *17*(4), 314-324. doi: 10.1108/09555340510607361

Dodaro, K. A. (2008). *Retention is the key*. Cleveland, OH: NAS Recruitment Communications. Retrieved from http://www.sdahcr.org/images/Retention_is_the_Key.pdf

Driscoll, M. (2002). *Blended learning: Let's get beyond the hype*. Learning and Training Innovations Newsline. Reading, PA: IBM Global Services.

Drucker, P. F. (1988). The coming of the new organization. *Harvard Business Review, 66*(1), 45-53.

Dunn, S., & Jasinski, D. (2009). The role of new hire orientation programs. *Journal of employment counseling, 43*(3), 115-127.

Durkin, D. (2010). Growing with the flows. *Continuing Higher Education Review, 74*(2010), 53-61.

Easterby-Smith, M., & Lyles, M. A. (2011). The evolving field of organizational learning and knowledge management. In M. Easterby-Smith & M. A. Lyles (Eds.), *Handbook of organizational learning and knowledge management*. (2nd ed.). West Sussex, UK: John Wiley & Sons.

Ebbinghaus, H. (1885). *Memory: A contribution to experimental psychology*. Translators H. A. Ruger & C. E. Bussenius (1913). New York, NY: Teachers College, Columbia University.

Eisenstadt, M., & Vincent, T. (2000). Knowledge media takes off on the web: Introduction and overview of the book. In M. Eisenstadt and T. Vincent (Eds.), *The knowledge web: Learning and collaborating on the net*. (2nd ed.). New York, NY: Routledge.

Eitzen, D. S., & Zinn, M. B. (2012). In D. S. Eitzen & M. B. Zinn (Eds.), *Globalization: The transformation of social worlds*. (3rd ed.). Belmont, CA: Wadsworth Cengage Learning.

Emelo, R. (2009). The future of knowledge management. *Chief Learning Officer, May*(2009). Retrieved from www.clomedia.com

Fadel, C., & Lemke, C. (2008). *Multimodal learning through media: What the research says*. San Jose, CA: Cisco Systems. Retrieved from http://www.fgdla.us/uploads/Multimodal-Learning-Through-Media.pdf

Farrington, J. (2011). From the research: Myths worth dispelling. *Performance Improvement Quarterly, 23*(4), 113-116. doi: 10.1002/piq.20099

Florez-Arango, J. F. (2009). *Workload and performance factors associated with multimedia job aids for community health workers* (Doctoral dissertation, University of Texas, 2009). Retrieved from UT SBMI Dissertations (Open Access) http://digitalcommons.library.tmc.edu/uthshis_dissertations/22/

Florez-Arango, J. F., & Iyengar, M. S. (2013). Decreasing workload among community health workers using interactive, structured, rich-media guidelines on smartphones. *Technology and Health Care, Journal of the European Society for Engineering and Medicine, 21*(2), 113-123. doi: 10.3233/THC-130713

Florez-Arango, J. F., Iyengar, M. S., Dunn, K., & Zhang, J. (2011). Performance factors of mobile rich media job aids for community health workers. *Journal of American Medical Informatics Association, 18*(2), 131-137. doi: 10.1136/jamia.2010.010025

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12*(2), 219-245. doi: 10.1177/1077800405284363

Foley, S. A. M. (2010). *New employee orientation: The benefits of role information* (Master's Thesis, San Diego State University, 2010). Retrieved from ProQuest database.

Foss, N. J., & Mahnke, V. (2011). Knowledge creation in firms: An organizational economics perspective. In M. Easterby-Smith & M. A. Lyles (Eds.), *Handbook of organizational learning and knowledge management*. (2nd ed.). West Sussex, UK: John Wiley & Sons.

Foster-Thompson, L., & Beal, S. A. (2009). *Developing an onboarding program to improve senior leader transitions in the army* (Research Report 1907). Arlington, VA: U.S. Army Research Institute for the Behavioral and Health Sciences.

Freeman, M., deMarrais, K., Preissle, J., Roulston, K., & St. Pierre, E. A. (2007). Standards of evidence in qualitative research: An incitement to discourse. *Educational Researcher, 36*(1), 25-32. doi: 10.3102/0013189X06298009

Fritz, K., Kaestner, M., & Bergmann, M. (2010). Coca-Cola enterprises invests in onboarding at the front lines to benefit the bottom line. *Global Business and Organizational Excellence, May/June*(2010), 15-22. doi: 10.1002/joe.20325

Gareiss, R. (2009). *The true cost of voice over IP: As VOIP becomes mainstream, costs level out, benefits increase*. Mokena, IL: Nemertes Research Group. Retrieved from http://www.rts.com/docs/Nemertes%20-%20A%20Case%20for%20Avaya%20VoIP.pdf

Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review*. Retrieved from http://w3.ualg.pt/~mzacaria/gic/HBR-Building-a-Leaning-Organization.pdf

Giacalone, K. (2009). Making new employees successful in any economy. *T & D, 63*(6), 36-39. Retrieved from www.tdmagazine.astd.org

Gladney, D. (2011). *Exploring strategies for obtaining a workable balance between organizational support for formal training and self-directed learning via personal learning networks at a midsized university* (Doctoral dissertation, Pepperdine University, 2011). Retrieved from ProQuest database. (UMI: 3479085)

Glesne, C. (2011). *Becoming qualitative researchers: An introduction*. (4th ed.). Boston, MA: Pearson.

Golubski, P. M. (2011). Virtually Onboarding and Supporting Adult Students in College Using Web 2.0 Technologies. In V. Wang (Ed.), *Encyclopedia of Information Communication Technologies and Adult Education Integration* (pp. 1013-1030). doi:10.4018/978-1-61692-906-0.ch062

Gordon, J. (2005). Making knowledge management work. *Training Magazine*. Retrieved June 15, 2011 from http://www.cedma-europe.org/newsletter%20articles/Training%20Magazine/Making%20knowledge%20management%20work%20%28Aug%2005%29.pdf

Graybill, J. O., Carpenter, M. T. H., Offord, J., Piorun, M., & Shaffer, G. (2013). Employee onboarding: Identification of best practices in ACRL libraries. *Liberty Management, 34*(3), 200-218. doi: 10.1108/01435121311310897

Grossman, R., & Salas, E. (2011). The transfer of training: What really matters. *International Journal of Training and Development, 15*(2), 103-120.

Guion, L. A. (2002). *Triangulation: Establishing the validity of qualitative studies*. University of Florida Extension, Institute of Food and Agricultural Science.

Guion, L. A., Diehl, D. C., & McDonald, D. (2011). *Triangulation: Establishing the validity of qualitative studies*. University of Florida Extension, Institute of Food and Agricultural Science. doi: FCS6014

Hager, P., & Hodkinson, P. (2009). Moving beyond the metaphor of transfer of learning. *British Educational Research Journal, 35*(4), 619-638. doi: 10.1080/01411920802642371

Hampel, B., & Lamont, E. (2011). *Perfect phrases for new employee orientation and onboarding: Hundreds of ready-to-use phrases to train and retain your top talent*. New York, NY: McGraw Hill.

Hancock, D. R., & Algozzine, B. (2006). *Doing case study research: A practical guide for beginning researchers*. New York, NY: Teachers College Press.

Hatch, J. A. (2002). *Doing qualitative research in educational settings*. Albany, NY: State University of New York Press.

Hermans, D. (2010). *A learning journey: A study on the development of interactions, trust and learning in a global client network* (Master's Thesis, Utrecht University, 2010). Retrieved from http://igitur-archive.library.uu.nl/student-theses/2010-1102-200413/Final_thesis_Dominique_Hermans_21-08-2010.pdf

Hills, C. (2010). Competing effectively in the global knowledge economy. *The Engaged Scholar E-Newsletter, 3*(2). Retrieved from http://engagedscholar.msu.edu/enewsletter/volume3/issue2/cced.aspx

Hipp, K. K., & Huffman, J. B. (2007). Using assessment tools as frames for dialogue to create and sustain professional learning communities. In L. Stoll & K. S. Louis (Eds.), *Professional learning communities: Divergence, depth and dilemmas*. New York, NY: Open University Press/McGraw Hill.

Hlava, M. M. K. (2013). Introduction. *Bulletin of the American Society for Information Systems and Technology, 39*(2), 11-12. doi: 10.1002/bult.2013.1720390205

Holtshouse, D. (2010). Knowledge work 2020: thinking ahead about knowledge work. *On The Horizon,18*(3), 193-203.

Hwang, G., & Chang, H. (2011). A formative assessment-based mobile learning approach to improving the learning attitudes and achievements of students. *Computers & Education, 56*(4), 1023-1031. doi: 10.1016/j.compedu.2010.12.002

Hyatt, L. A. (2009). Mentoring: Passing down experiential knowledge to the next generation of leaders. *Contract Management, 49*(10), 64-71. Retrieved from www.ncmahq.org/cm1009/hyatt

Jackson, R. D. (2012). Performance Aids. In R. K. Prescott & W. Rothwell (Eds.), *Human resource management: Short entries* (pp. 370-373). San Francisco, CA: John Wiley & Sons.

Jashapara, A. (2005). The emerging discourse of knowledge management: A new dawn for information science research. *Journal of Information Science, 31*(2), 136-148. doi: 10.1177/0165551505051057

Jenkins, J. (2008). Strategies for managing talent in a multigenerational workforce. *Employment Relations Today*, 19-26. doi: 10.1002/ert.20172

Johnson, R. (2010). *Transition from training to performing: Using level three evaluation to improve performance within an onboarding training system* (Master's Thesis, University of Wisconsin-Stout, 2010). Retrieved from http://www2.uwstout.edu/content/lib/thesis/2010/2010johnsonr.pdf

Johnson, J., & Schein, E. H. (1978). *Toward a theory of organization socialization*. Retrieved from http://dspace.mit.edu/bitstream/handle/1721.1/1934/SWP-0960-03581864.pdf?sequence=1

Johnson, M., & Senges, M. (2009). Learning to be a programmer in a complex organization: A case study on practice-based learning during the onboarding process at Google. *Journal of Workplace Learning, 22*(3), 180-194. doi: 10.1108/13665621011028620

Jones, C. O. H., Wasunna, B., Sudoi, R., Githinji, S. Snow, R. W., & Zurovac, D. (2012). "Even if you know everything you can forget": Health worker perceptions of mobile phone text-messaging to improve Malaria case-management in Kenya. *Public Library of Science ONE, 7*(6), e38686. doi: 10.1371/journal.pone.0038636

Kane, K., Robinson-Combre, J., & Berge, Z. L. (2009). Tapping into social networking: Collaborating enhances both knowledge management and e-learning. *The Journal*

of Information and Knowledge Management Systems, 40(1), 62-70. doi: 10.1108/03055721011024928

Kankanhalli, A., Lee, O., & Lim, K. H. (2011). Knowledge reuse through electronic repositories: A study in the context of customer service support. *Information & Management, 48*(2-3), 106-113.

Kaser, L., & Halbert, J. (2009). *Leadership mindsets: Innovation and learning in the transformation of schools*. New York, NY: Routledge/Taylor & Francis.

Kember, D., McNaught, C., Chong, F. C. Y., Lam, P., & Cheng, K. F. (2010). Understanding the ways in which design features of educational websites impact upon student learning outcomes in blended learning environments. *Computers & Education, 55*(3), 1183-1192.

Keuschnigg, C., & Ribi, E. (2008). Outsourcing, unemployment, and welfare policy (CESIfo Working Paper No. 2452). Retrieved from http://hdl.handle.net/10419/26497

Klein, H. J., & Polin, B. (2012). Are organizations on board with best practices onboarding? In C. R. Wanberg (Ed.), *The Oxford handbook of organizational socialization*. New York, NY: Oxford University Press.

Kluge, A. Grauel, B., & Burkolter, D. (2013). Combining principles of cognitive load theory and diagnostic error analysis for designing job aids: Effects of motivation and diagnostic performance in a process control task. *Applied Ergonomics, 44*(2), 285-296. doi: 10.1016/j.apergo.2012.08.001

Koenig, M. E. D. (2012). *What is KM? Knowledge management explained*. Retrieved from http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspx

Kopp, D. M., Desiderio, K. P., & McAtavey, J. M. (2010). When job aids attack: On the social history of dubious job aids. *Human Resource Development Quarterly, 21*(2), 209-221. doi: 10.1002/hrdq.20037

Laal, M. (2011). Knowledge management in higher education. *Procedia Computer Science, 3*(2011), 544-549. doi: 10.1016/j.procs.2010.12.090

Lan, Y., & Sie, Y. (2010). Using RSS to support mobile learning based on media richness theory. *Computers & Education, 55*(2), 723-732. doi: 10.1016/j.compedu.2010.03.005

Lanese, L., & Nguyen, F. (2012). The journey from formal learning to performance support. *Performance Improvement, 51*(5), 17-21. doi: 10.1002/pfi.21267

Lankow, J., Ritchie, J., & Crooks, R. (2012). *Infographics: The power of visual storytelling*. Hoboken, NJ: John Wiley & Sons.

Lawler, E. E., & Mohrman, S. A. (1987). Quality circles: After the honeymoon. *Organizational dynamics, March*(1987), 42-54. Retrieved from http://ehis.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?sid=1b5ebc55-2ce9-4e10-8d74-16bd9ace85cc%40sessionmgr110&vid=2&hid=4

Laxton, R., & Applebee, A. C. (2010). Developing communities of practice around e-learning and project management. *Journal of Distance Education, 24*(1), 123-142.

Leberman, S., McDonald, L., & Doyle, S. (2006). *The transfer of learning: Participants' perspectives of adult education and training*. Burlington, VT: Gower Publishing.

Lee, H., & Roth, G. L. (2009). A conceptual framework for examining knowledge management in higher education contexts. *New Horizons in Adult Education and Human Resource Development, 23*(4), 22-37. Retrieved from http://education.fiu.edu/newhorizons

Lelic, S. (2002). It's a small world: The effects of globalization on knowledge management. *Inside Knowledge, 5*(9). Retrieved from http://www.ikmagazine.com/xq/asp/sid.0/articleid.B2C08675-06BF-4955-91C2-75128B65B615/eTitle.Its_a_small_world_The_effects_of_globalisation_on_knowledge_management/qx/display.htm

Lennon, J. A. & Maurer, H. (2001). Can knowledge management help in poverty-stricken countries and crisis situations. *Journal of Universal Computer Science, 7*(4), 327-334.

Lim, D. H., & Morris, M. L. (2009). Learner and instructional factors influencing learning outcomes within a blended learning environment. *Environment Educational Technology & Society, 12*(4), 282-293. Retrieved from http://ehis.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?sid=ab5649a9-0d6f-440e-89e0-b473abb1e8f3%40sessionmgr110&vid=2&hid=109

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational research: From theory to practice*. Hoboken, NJ: John Wiley & Sons, Inc.

Mahasinpaisan, T. (2011). *The causal relationship of organizational performance of Thailand higher education institutions*. Retrieved from http://0-www.eric.ed.gov.novacat.nova.edu/ERICWebPortal/recordDetail?accno=ED513736

Malladi, S., & Krishnan, M. (2012). *Does software-as-a-service (SaaS) has a role in IT-enabled innovation? - An empirical analysis*. Abstract retrieved from http://aisel.aisnet.org/amcis2012/proceedings/EnterpriseSystems/17/

Mason, J., & Lefrere, P. (2003). Trust, collaboration, e-learning and organizational transformation. *International Journal of Training and Development, 7*(4), 259-270.

McElroy, M. W. (2002). *The new knowledge management: Complexity, learning, and sustainable innovation*. Retrieved from http://www.macroinnovation.com/images/McElroy_nkm.pdf

Merriam, S. B. (Producer). (2008). *Trends in adult education* [Audio Podcast]. Los Angeles, CA: Laureate Education Inc.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. (2nd ed.). Hoboken, NJ: Jossey-Bass.

Milam, J. H. Jr. (2001). Knowledge management for higher education. *ERIC Clearinghouse on Higher Education*. Retrieved from http://www.ericdigests.org/2003-1/higher.htm

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. (2nd ed.). Thousand Oaks, CA: Sage Publications.

Miller, G. A., Fellbaum, C., Tengi, R., Wakefield, P., & Langone, H. *WordNet: An Electronic Lexical Database*. Princeton, NJ: Princeton University. Retrieved from http://wordnet.princeton.edu/

Mills, N. (2011). Situated learning through social networking communities: The development of joint enterprise, mutual engagement, and a shared repertoire. *CALICO Journal, 28*(2), 345-368. Retrieved from http://works.bepress.com/cgi/viewcontent.cgi?article=1032&context=nicole_mills

Mitri, M. (2003). Applying tacit knowledge management techniques for performance assessment. *Computers & Education, 41*(2003), 173-189.

Morozov, E. (2012). Think again: The Internet. In D. S. Eitzen & M. B. Zinn (Eds.), *Globalization: The transformation of social worlds*. (3rd ed.). Belmont, CA: Wadsworth Cengage Learning.

Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of Counseling Psychology, 52*(2), 250-260. doi: 10.1037/0022-0167.52.2.250

Mortvedt, S. L. (2009). *Formal on-boarding procedures: An implementation model for XYZ company* (Master's Thesis, University of Wisconsin-Stout, 2009). Retrieved from http://www2.uwstout.edu/content/lib/thesis/2009/2009mortvedts.pdf

Nelson, J. M. (2011). *Running up the curve: Adult learning styles and employee onboarding* (Master's Thesis, St. Catherine University, 2011). Retrieved from SOPHIA Database http://sophia.stkate.edu/maol_theses/8

Nifadkar, S. S. (2009). *Emotions and newcomer adjustment* (Doctoral dissertation, Arizona State University, 2009). Retrieved from ProQuest Database. (UMI 3360608)

Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company*. New York, NY: Oxford University Press.

Nonaka, I., & Toyama, R. (2002). A firm as a dialectical being: Towards a dynamic theory of a firm. *Industrial and Corporate Change, 11*(5), 995-1009.

Noor, K. B. M. (2008). Case study: A strategic research methodology. *American Journal of Applied Sciences, 5*(11), 1602-1604.

Ohno, T., Hasegawa, T., Tsuruoka, T., Terabe, K., Gimzewski, J. K. (2011). Short-term plasticity and long-term potentiation mimicked in single inorganic synapses. *Nature Materials, 10*(8), 591-595. doi: 10.1038/NMAT3054

Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and qualitative research: An oxymoron? *Quality & Quantity, 2007*(41), 233-249. doi: 10.1007/s11135-006-9000-3

Parise, S. (2007). Knowledge management and human resource development: An application in social network analysis methods. *Advances in Developing Human Resources, 9*(3), 359-383. doi: 10.1177/1523422307304106

Parise, S., Cross, R., & Davenport, T. H. (2005). *It's not what but who you know: How organizational network analysis can help address knowledge loss crisis*. The Network Roundtable at the University of Virginia, pp. 1-23. Retrieved from http://www.robcross.org/pdf/roundtable/lost_knowledge.pdf

Park, Y. (2011). A pedagogical framework for mobile learning: Categorizing educational applications of mobile technologies into four types. *The International Review of Research in Open and Distance Learning, 12*(2), 78-102. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/791/1699

Patton, M. Q. (2001). Evaluation, knowledge management, best practices, and high quality lessons learned. *American Journal of Evaluation, 2001*(22), 329-336.

Petrides, L. A. (2011). *The democratization of data in higher education: A case study of the challenges that institutions face as they seek to improve student success*. Half Moon Bay, CA: The Institute for the Study of Knowledge Management in Education.

Petrides, L. A., & Nguyen, L. (2006). Knowledge management trends: Challenges and opportunities for educational institutions. In A. S. Metcalf (Ed.), *Knowledge management and higher education: A critical analysis* (pp. 21-33). Hershey, PA: Idea Group, Inc. doi:10.4018/978-1-59140-509-2.ch002

Petrides, L. A., & Nodine, T. R. (2003). *Knowledge management in education: Defining the landscape*. Half Moon Bay, CA: The Institute for the Study of Knowledge Management in Education.

Platz, B. (2007). *Employee onboarding: One chance for a positive new employee experience*. Retrieved September 28, 2011 from http://humanresources.about.com/od/orientation/a/onboarding.htm

Plunkett, M. (2010). On-boarding in a global workplace. In K. Lundy (Ed.), *Going global: Practical applications and recommendations for HR and OD*

professionals in the global workplace (pp. 175-199). Hoboken, NJ: John Wiley & Sons.

Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. (2nd ed.). New York, NY: Rutledge/Taylor & Francis.

Rhodes, J., Lok, P., Hung, R. Y., & Fang, S. (2008). An integrative model of organizational and social capital on effective knowledge transfer and perceived organizational performance. *Journal of Workplace Learning, 20*(4), 245-258. doi: 10.1108/13665620810871105

Rollag, K., Parise, S., & Cross, R. (2005). Getting new hires up to speed quickly. *MIT Sloan Management Review, 46*(2), 35-41. Retrieved from ProQuest Database.

Rose, J. M., McKay, B. A. Norman, C. S., & Rose, A. M. (2012). Designing decision aids to promote the development of expertise. *Journal of Information Systems, 26*(1), 7-34. doi: 10.2308/isys-10188

Rosenheck, M. (2009). Capturing pearls of wisdom. *Chief Learning Officer, September*(2009). Retrieved from www.clomedia.com

Rossett, A., & Schafer, L. (2007). *Job aids and performance support: Moving from knowledge in the classroom to knowledge everywhere*. San Francisco, CA: John Wiley & Sons.

Rothwell, W. J., & Kazanas, H. C. (2008). *Mastering the instructional design process: A systematic approach*. (4th ed.). Hoboken, NJ: John Wiley & Sons/Pfeiffer.

Rothwell, W. J., & Whiteford, A. P. (2011). Corporate employee training and development strategies. In M. London (Ed.), *The Oxford handbook of lifelong learning*. NY, NY: Oxford University Press.

Sadikoglu, E., & Zehir, C. (2010). Investigating the effects of innovation and employee performance on the relationship between total quality management practices and firm performance: An empirical study of Turkish firms. *International Journal of Production Economics, 127*(1), 13-26. doi:10.1016/j.ijpe.2010.02.013

Saks, A. M., & Gruman, J. A. (2011). Getting newcomers engaged: the role of socialization tactics. *Journal of Managerial Psychology, 26*(5), 383-402. doi: 10.1108/02683941111139001

Salas, E., Tannenbaum, S. I., Kraiger, K., Smith-Jentsch, K. A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science in the Public Interest, 13*(2), 74-101. doi: 10.1177/1529100612436661

Sallis, E. & Jones, G. (2008). *Knowledge management in education: Enhancing learning and education*. (2nd ed.). Abingdon, Oxon, UK: Taylor & Francis.

Santo, S. A. (2005). Knowledge management: An imperative for schools of education. *Tech Trends: Linking Research and Practice to Improve Learning, 49*(6), 42-49. doi: 10.1007/BF02763729

Santovec, M. L. (2010). Build relationships to save the cost of employee attrition. *Women in Higher Education, 19*(6), 20-21. Retrieved from ProQuest Education Journals.

Serbin, K. M., & Jensen, S. (2013). Recruiting, hiring, and onboarding case managers: Communication and setting expectations are keys to success. *Professional Case Management, 18*(2), 95-97. doi: 10.1097/NCM.0b013e3182806a50

Sequent, Monster, Nationwide, & Human Capital Institute. (2008). *The role of talent in the achievement of economic goals within the Columbus metropolitan statistical area*. Washington, DC: Human Capital Institute. Retrieved from www.hci.org

Schaffer, C., Funk, K., & Cothrel, J. (2002). *Learning to innovate*. Cambridge, MA: Cap Gemini Earnst & Young Center for Business Innovation.

Schein, E. H. (1971). The individual, the organization, and the career: A conceptual scheme. *Journal of Applied Behavioral Science,* 7, 401-426.

Schein, E. H. (1990). Organizational culture. *American Psychologist, 45*(2), 109-119. doi: 10.1037/0003-066X.45.2.109

Schreiner, B., & Black, J. (2010). Mentoring in the pharmaceutical industry: Developing an effective program for a field-based medical team. *Drug Information Journal, 44*(1), 81-86. Retrieved from http://sfxhosted.exlibrisgroup.com/waldenu?sid=google&auinit=B&aulast=Schreiner&atitle=Mentoring+in+the+Pharmaceutical+Industry:+Developing+an+Effective+Program+for+a+Field-based+Medical+Team&id=doi:10.1177/00928615100440010 9&title=Drug+Information+Journal&volume=44&issue=1&date=2010&spage=81&issn=0092-8615

Schuett, P. (2003). The post-Nonaka knowledge management. *Journal of Universal Computer Science, 9*(6), 451-462.

Share baby boomers knowledge with intergenerational mentoring. (2010). *HR Focus, February*(2010). Retrieved from ProQuest digital database.

Shehabat, I., Mahdi, S. A., Khoualdi, K. (2008). E-learning as a knowledge management approach for intellectual capital utilization. *Turkish Online Journal of Distance Education, 9*(1), 205-216.

Sheranian, N. J. (2010). A fine balance: Effectively managing growth and contraction. *Cornell HR Review*. Retrieved from http://digitalcommons.ilr.cornell.edu/chrr/4

Shrivastiv, H., & Hiltz, S. R. (2013). Information overload in technology-based education: A meta-analysis. Abstract retrieved from http://aisel.aisnet.org/amcis2013/ISEducation/GeneralPresentations/6/

Siggelkow, N. (2007). Persuasion with case studies. *Academy of Management Journal, 50*(1), 20-24.

Sitkin, S. B., Sutcliffe, K. M., & Schroeder, R. G. (1994). Distinguishing control from learning in total quality management: A contingency perspective. *The Academy of Management Review, 19*(3), 537-564.

Skyrme, D. J. (2011). *The learning organization*. Retrieved from http://www.skyrme.com/kmbriefings/3lrnorg.htm

Smith, Z. A. (2010). Assessing educational fundraisers for competence and fit rather than experience: A challenge to conventional hiring practices. *International Journal of Educational Advancement, 10*(2), 87-97. doi: 10.1057/ijea.2010.11

Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 443-466). Thousand Oaks, CA: Sage Publications, Inc.

Suskie, L., & Banta, T. W. (2009). *Assessing student learning: A common sense guide.* (2nd ed.). San Francisco, CA: Jossey-Bass.

Sveiby, K. (2001). *Knowledge management: Lessons from the pioneers*. Retrieved from http://www.providersedge.com/docs/km_articles/KM_-_Lessons_from_the_Pioneers.pdf

Swanson, H. F. (2009). *The time it takes to hire: A quantitative, single administration study to explore correlation among factors of employee satisfaction* (Doctoral dissertation, Capella University). Retrieved from ProQuest Database (UMI: 3387851)

Talukdar, A. (2008). *What is intellectual capital: And why it should be measured*. Retrieved from Attainix Consulting website: www.attainix.com/Downloads/WhatIsIntellectualCapital.pdf

Taylor, C., & Gibbs, G. R. (2010). *How and what to code*. Retrieved January 23, 2012 from http://onlineqda.hud.ac.uk/Intro_QDA/how_what_to_code.php

Thompson, L., Jefferies, M., & Topping, K. (2010). E-mentoring for e-learning development. *Innovations in Education and Teaching International, 47*(3), 305-315. doi: 10.1080/14703297.2010.498182

Tilaro, A., & Rossett, A. (1993). Creating motivating job aids. *Nonprofit Management Leadership, 32*(9), 13-20. doi: 10.1002/pfi.4170320906

To improve employee satisfaction, improve orientation. (2010). *Management Report for Nonunion Organizations*, *April*(2010), 4-7. doi: 10.1002/mare

Todd, B. (2012). *A global talent shortage: Myth or reality?* (National Science Foundation No. 1155339). Retrieved from http://www.skilledmigration.net/wp-content/uploads/2013/02/ben_paper_final_publish.pdf

Traynor, C. (2008). Mismanaged employee orientation: The unforced error of the business world. *Surface Fabrication*. Retrieved from www.surfacefabrication.com

van Caenegem, W. (2002). *Intellectual property and intellectual capital*. Gold Coast, Brisbane, Australia: Bond University, Faculty of law. Retrieved from http://epublications.bond.edu.au/law_pubs/20

van Maanen, J., Schein, E. H. (1979). *Toward a theory of organizational socialization*. Cambridge, MA: Massachusetts Institute of Technology. Retrieved from http://dspace.mit.edu/bitstream/handle/1721.1/1934/SWP-0960-03581864.pdf?sequence=1

Wallace, K. (2009). Creating an effective new employee orientation program. *Library Leadership & Management, 23*(4), 168-176. Retrieved from http://ezp.waldenulibrary.org/login?url=http://proquest.umi.com.ezp.waldenulibrary.org/pqdweb?did=1872591121&sid=1&Fmt=3&clientId=70192&RQT=309&VName=PQD

Wang, J. (2012). *Supporting developer-onboarding with enhanced resource finding and visual exploration* (Master's Thesis, University of Nebraska – Lincoln, 2012).

Retrieved from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1054&context=computerscidiss

Wang, S., & Wu, C. (2011). Application of context-aware and personalized recommendation to implement an adaptive ubiquitous learning system. *Expert Systems with Applications, 38*(9), 10831-10838. doi: 10.1016/j.eswa.2011.02.083

Whitaker, B. (2009). *The use of selection systems to reduce turnover in the transportation industry*. Retrieved from http://avatarms.com/~old/whitepapers/Avatar%20Turnover%20Report.pdf

Wiig, K. M. (1997). Knowledge management: Where did it come from and where will it go? *Expert Systems With Applications, 13*(1), 1-14.

Wilcox, L. C. (1997). Knowledge-Based Systems as an Integrating Process. In J. Leibowitz and L. C. Wilcox (Eds.), *Knowledge management and its integrative elements* (pp. 1-30). Boca Raton, FL: CRC Press.

Williams, E. A., Scandura, T. A., & Gavin, M. (2009). Understanding team-level career mentoring by leaders and its effects on individual team-source learning: The effects of intra-group processes. *Human Relations, 62*(11), 1635-1666. doi: 10.1177/0018726709346375

Williams, J. S. (2010). Orientation program sets new employees off on the right foot. *Biomedical Instrumentation & Technology, 44*(4), 301-304. Retrieved from http://search.proquest.com.ezp.waldenulibrary.org/docview/748863456/fulltextPDF?accountid=14872

Willmore, J. (2006). *Job aids basics: A complete, how-to guide to help you understand basic principles and techniques, create and use job aids effectively, and enable top performance*. Alexandria, VA: ASTD Press.

Wolf, J. A. (2008). Health care heal thyself! An exploration of what drives (and sustains) high performance in organizations today. *Performance Improvement, 47*(5), 38-45. doi: 10.1002/pfi

Wong, K. Y. (2005). Critical success factors for implementing knowledge management in small and medium enterprises. *Industrial Management & Data Systems, 105*(3), 261-279.

Yang, B. (2003). Toward a holistic theory of knowledge and adult learning. *Human Resource Development Review, 2*(2), 106-129.

Yang, B., Zheng, W., Viere, C. (2009). Holistic views of knowledge management models. *Advances in Developing Human Resources, 11*(3), 273-289. doi: 10.1177/1523422309338584

Yin, R. K. (1981). The case study crisis: Some answers. *Administrative Science Quarterly, 26*, 58-65.

Yin, R. K. (2009). *Case study research: Design and methods*. (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Yu, A. Y., Tian, S. W., Vogel, D., & Kwok, R. C. (2010). Can learning be virtually boosted? An investigation of online social networking impacts. *Computers and Education, 55*(2010), 1494-1503. doi: 10.1016/j.compedu.2010.06.015

Yung, J. T. (2009). *The newcomer's path to trust: Trust-building strategies, experienced trust, and employee engagement among newly-hired employees* (Doctoral dissertation, University of Washington, 2009). Retrieved from ProQuest Database. (UMI: 3370590)

Zheng, W., Yang, B., & McLean, G. N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research, 63*(7), 763-771. doi: 10.1016/j.jbusres.2009.06.005

Appendix A: Job Aid

The development of this job aid, or Infographic, was because of the literature review and this study on onboarding and learning retention. Since it was not possible to obtain access to the current employees of the UCC, and I used former employees, the job aid does not contain information directly from the company. Presented is a sample professional development training based upon the information included in the job aid.

Purpose

The first day on the job is the most difficult for a new hire to learn and retain all the information necessary to do their jobs correctly. The purpose of the training is to change how newly hired IT staffs obtain their knowledge to become successful workers, in the immediate future, and in the end, be able to offer immediate productivity as well as aid future new IT hires. Moreover, the purpose is to ensure that the new IT hires have the requisite knowledge to navigate the site, find pertinent information based on whether they were college hires or experienced, and begin to understand the culture in addition to increasing and retaining their technical knowledge. The purpose of the training will be to guide the newly employed IT hires on the understanding of what they need to know to become successful employees while the purpose of the job aid is to limit the rate of forgetfulness on the amount of information that is a requirement for new IT hires to learn. Likewise, the use of job aids throughout the professional development training will provide newly hired staff the ability to quickly acclimate and be immediately productive. Job aids are not intended to be training tools, but are quick refreshers of knowledge to confirm a transfer of learning (Clark & Lyons, 2011; Horton, 2006; Salas et al., 2012).

To confirm the transfer of knowledge, the training for the new IT hires on the material supplied in the job aid will entail providing the newly hired IT staff with a one-day course to understand the information and use of the job aid. Clark and Lyons (2011) identified that visuals aligned with the text and the goals of the training program promoted and improved learning and recollection. The information supplied on the job aid is basic, therefore, it does not cover all the perceptions required to be able to succeed in becoming acclimated with the necessary skills, knowledge, and attitudes. Much of the information required to become successful will be specified in the professional development training, and the job aid will offer the new IT hires the ability to navigate through their learning to enhance performance while guiding and increasing their confidence (Burke & Hutchins, 2008; Coloma, Parry, & Berdie, 2010; Gladney, 2011; Salas et al., 2012).

Goals

Goals are the state of affairs that the plan was intended to achieve, and when achieved will end the behavior used to accomplish them (Miller, Fellbaum, Tengi, Wakefield, & Lagone, 2010). The goals of the training are to guide the learners through understanding the material and information offered on the job aid. The goals also include the provision of the employees being able to know and comprehend how to navigate, find mentors and required information, work with the equipment, and learn about the culture to retain them and their learning. Finally, be able to apply their newly gained knowledge to their specific job tasks and responsibilities. The goal of the job aid, therefore, will be to provide newly acquired IT staff with a low cost, quick reference guide to retain their

learning during and after this professional development training since job aids reduce the amount of information they will need to memorize (Jackson, 2012; Kluge, Grauel, & Burkolter, 2013). Job aids enhanced the performance of new hires through supplemental support with useful information throughout the training program and for posttraining support (Coultas et al., 2012; Tilaro & Rosset, 1993).

Learning Outcomes

The learning outcomes of this professional development training involve the newly employed IT staff having the knowledge, skills, and attitudes required to become successful at the UCC. The desired knowledge, skills, and attitudes necessitates (a) being able to navigate the UCC's Intranet site, (b) the ability to find and discover further training offered, (c) beginning to learn about the culture of the UCC, (d) understanding how to access necessary information for their roles, responsibilities, and (e) being able to configure the equipment for testing purposes. Finally, be able to use the job aid along with the provided training for learning support and retention.

The learning outcomes for this training would include whether job aids offered the newly employed IT workers with the information necessary to provide improvements to new IT workers' initial learning allowing them to become immediately acclimated and productive (Foster-Thompson & Beal, 2009). Therefore, to conduct the training to ensure learning transfer:

- The participants will use the job aid during the training and afterwards for learning retention

- The participants will identify how to navigate the Intranet site to find pertinent HR information
- The participants will be able to acknowledge where to find the training offered for IT employees, as well as how to enroll and the necessary questions to ask
- The participants will be able to articulate their preliminary understanding of the company's culture
- The participants will understand their roles and responsibilities to be able to become acclimated sooner
- The participants will understand how to set up and work with the equipment in different scenarios
- The participants will understand how to find a mentor and begin to network at the UCC
- The participants will understand how to work with the customers and some preliminary questions to ask
- Lastly, the participants will partake in an evaluation of the training and job aid to determine what may or may not need changing for future new employees.

Target Audience

The target audience for this training would be the intended users of the job aid, which would include the newly hired IT staff, whether college graduates or experienced. This is because the job aid is centered on them to provide them with the information they

need to know as new staff. Managers and current co-workers would be the intended audience as well for them to understand what the newly hired employees are learning, in addition to the expectations of their new IT hires, and to supply the new IT hires with continued support.

Components

The components of the training will include lessons that first begin with an introduction of the participants, the trainer, and the HR representative. The focus will then shift to explain how to navigate the Intranet site. The trainer will begin by providing a lecture with slides and a demonstration to show and indicate where the impertinent information within the site was. Then, the trainer will instruct the participants to open the Intranet site and begin to click on the different links available to gain an understanding of what information is available under the navigation headings, such as HR information detailing their employment information. Next, the trainer will instruct the participants to navigate to the learning university site (the link is available off the HR Intranet) of the UCC to learn how to obtain necessary permissions to obtain access to future trainings and to stay abreast of the technical knowledge within the company.

After learning how to navigate the Intranet site and reading provided on the company's mission and vision statements, the trainer will ask participants to write, in their own words, what they believe is the current culture of the company. As they cultivate an appreciation of the culture, the participants will begin to develop an understanding of their roles and responsibilities pertaining to their jobs and job tasks. This will include having the participants obtain equipment and having the trainer

demonstrate, with hands-on participation from the participants, on how to set up the equipment. Once the equipment was set up, have the participants begin to work on learning how to configure it in common scenarios and how to build and set up the equipment at home for practice (such as loopbacks to test different technology).

Towards the end of the training, the trainer will facilitate the training for the participants to learn how to interact and respond to customers, as well as the best questions to ask in order to obtain the necessary information. Lastly, the trainer will guide the participants on how to find mentors and on how to begin increasing their personal networks for growth and learning (Kane et al., 2009; Mills, 2011; Yu et al., 2010) and will fill out a rubric to evaluate the training for future improvement.

Module Formats

The modules consist of providing an overview of the day's activities and learning.

Hour #1: Introduction

Hour #2: Navigation of Intranet and Company University

Hour #3: Mission and Vision Statements and Understanding

Hour #4: Roles and Responsibilities

Hour #5: Equipment Demonstration

Hour #6: Equipment Practice and Q&A

Hour #7: Customer Interaction and Responses

Hour #8: Finding Mentors and Increasing Personal Networks

Timeline

Time	Topic	Presenter	Objectives
8:00 AM to 8:30 AM	Introduction to the Training: Welcome (Job Aid handed out)	HR	Provide welcome and introductions of the Trainer, HR representative, and Participants
8:30 AM to 9:00 AM	Navigating the Intranet	Trainer - HR	Participants learn how to navigate Intranet site to understand where to obtain general HR information
9:00 AM to 9:30 AM	Finding information/UCC University	Trainer	Participants learn about navigating the training offered on the University site and gain an understanding of how to obtain permissions
9:30 AM to 10:45 AM	Mission and Vision Statements	HR/Trainer/Current IT Employees	Participants learn about the mission and vision of the company to gain a preliminary understanding of the culture as well as from current employees
10:45 AM to 11:00 AM	**BREAK**		
11:00 AM to 11:30 AM	Roles and Responsibilities	Trainer/Current IT Employees/IT Managers	Participants will gain an understanding of the basics of their jobs and job tasks
11:30 AM to 12:30 PM	**LUNCH**		

Time	Topic	Presenter	Objectives
12:30 PM to 1:30 PM	Demonstration of Equipment	Trainer	Using the equipment
1:30 PM to 2:30 PM	Equipment Practice and Q&A	Trainer	Hands-on skills of using the equipment and questions to ask about the equipment
2:30 PM to 3:30 PM	Interaction and Responses to Customers	Trainer/Current IT Employees	Understanding of what questions to ask customers for project development
3:30 PM to 4:00 PM	Finding Mentors and Personal Networks	Trainer/Current IT Employees	Provide participants with the knowledge of how to find mentors and developing their personal networks

Activities

Participants and the trainer will begin with an icebreaker, such as a talk show host. The participants will divide into groups of two and will interview the other person to get to know them. Once completed, the participants will then proceed to introduce the person they interviewed to the rest of the group. The next activity will entail having the participants splitting up into groups again to begin learning how to navigate the site, taking notes on what they discover and learn while also ascertaining how to navigate the company university to find information on registering and attending courses.

The next activity for the participants will entail listening to the trainer, HR representative, IT managers, and current employees offer stories about the culture of the company. These stories will be from the managers and current employees, as well as the HR department to obtain different perspectives. Then, the participants will read the company's mission and vision statements and write a paragraph about what they think is the culture of the company. Once they finish the paragraph, the participants will share with the trainer, HR representative, and current employees their ideas.

To proffer learning about roles, responsibilities, and expectations, newly hired IT staff will again be separated into groups. These groups will consist of college IT hires and experienced IT hires with a current IT employee and manager to provide understanding from each viewpoint of the participants. Within these groups, each current employee will provide a story of what their jobs and job tasks entailed, such as programming or networking, and their understanding of the expectations for the tasks.

The managers will provide stories of what they need and expect from each job and job task.

The activity for training on the equipment consists of the trainer presenting a demonstration on the uses of and setting up of the equipment required for the performance of the IT jobs. After the demonstration, each new IT hire will arrange the equipment and begin to setup a sample program to test. They will first test the equipment using the regular structure; afterwards, they will watch another demonstration by the trainer showing them how to modify the arrangement, such as testing loopbacks or programs, to understand how to configure the software properly. While in those same groups, the experienced and new college hires will test each other's conformations. Lastly, the participants and trainer will have a question and answer session to offer opportunities for learning and for ordering their equipment for their home offices.

The last two activities involve the participants learning how to deal with the customer, such as the best questions to ask to solicit the answers necessary to build and program the software and hardware for the customers. The participants will divide into two groups; one group will be the customer and the other the IT person. After that first scenario, the groups will switch. Concluding the day will be the participants learning from the trainer and current employees through stories on how to find mentors, assigned to a mentor while in the training, and on how to grow their personal networks for job success and longevity.

Training Presentation with Notes

Slide 1:

Introduction:

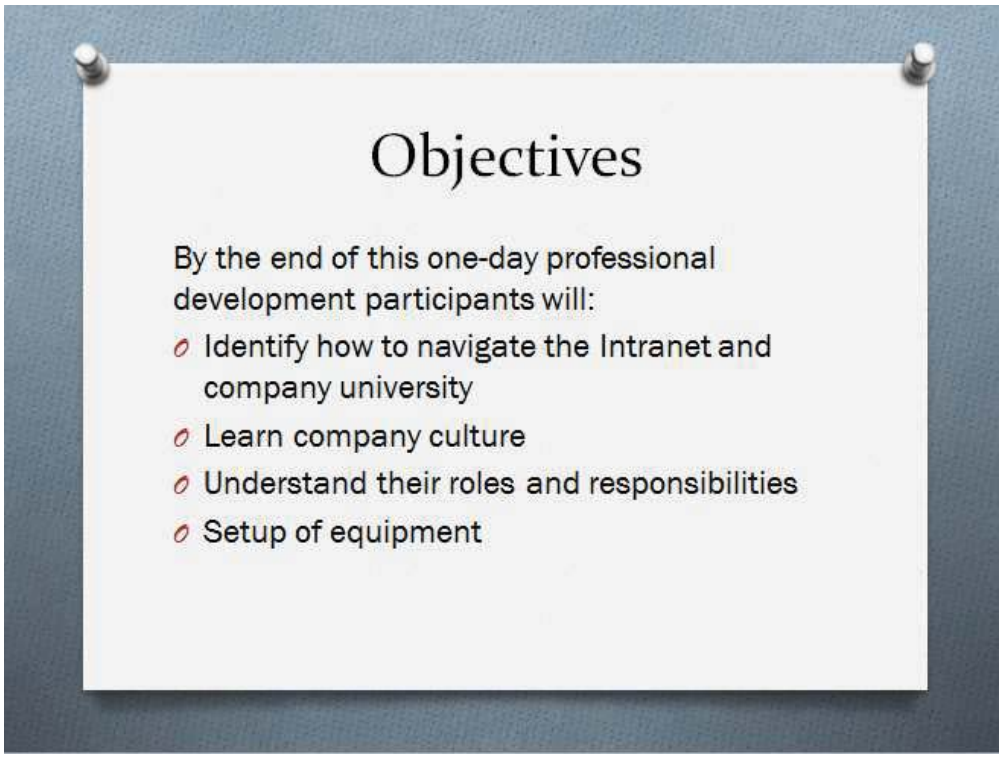
Welcome and introduce trainer

Provide job aid handout

One-day professional development

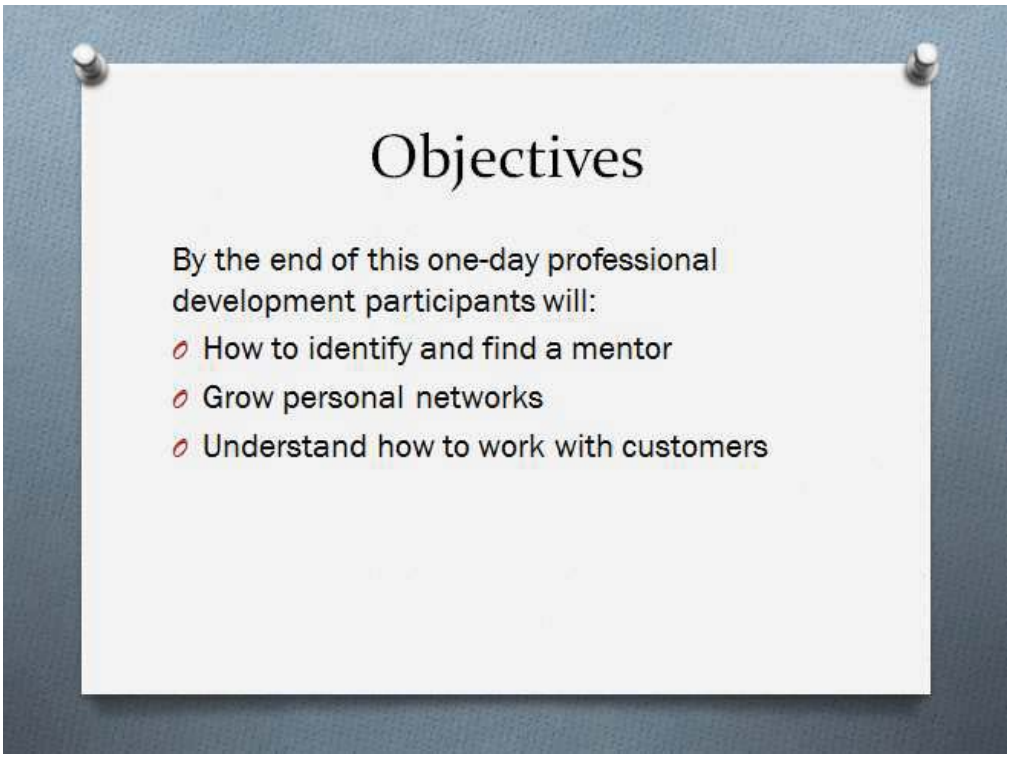
Materials: equipment placed on table for each participant along with user manual

Slide 2:



Today we are going to learn about how to navigate the Intranet and Company University, the culture, roles and responsibilities, equipment setup and use, identification of mentors, and working with customers. All of you are new IT hires to the UCC and although many of you are experienced, it is necessary to understand what the requirements and expectations are for you to be successful here.

Slide 3:



Finish discussing objectives.

Slide 4:

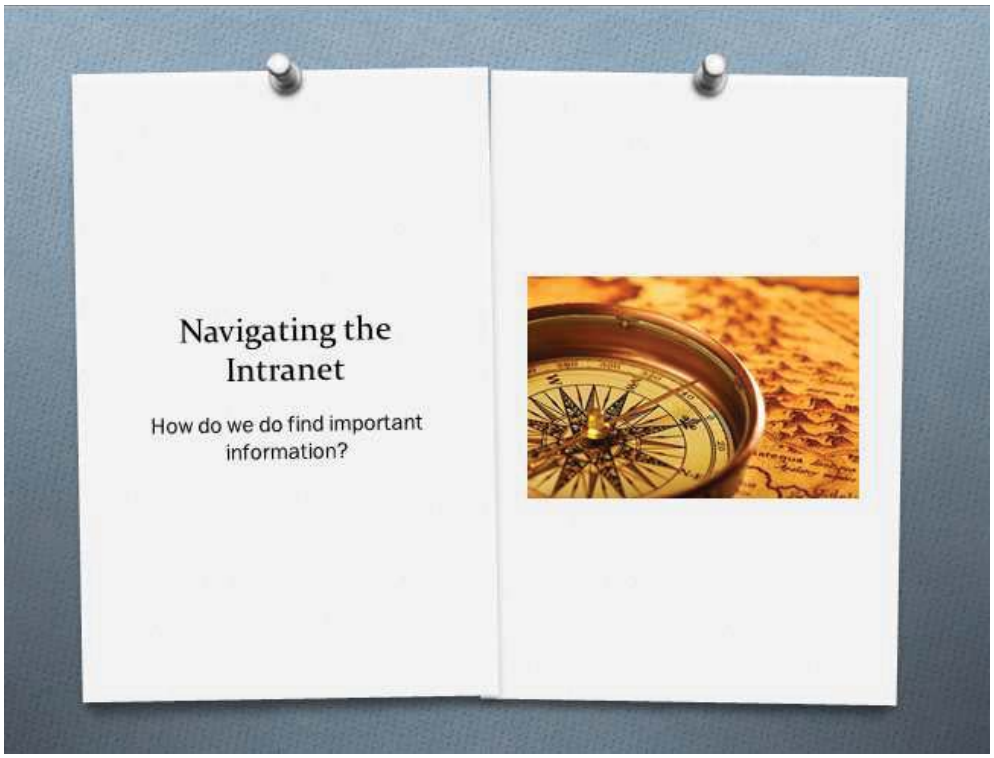
After discussing objectives:

Now you will break out into groups of two and interview each other to introduce them to the rest of the participants of this professional development.

Provide some time for interviews and presentations of participants

So let us begin introducing each other. What did you learn about each other?

Slide 5:



The Intranet provides us with a lot of information that is not always easy to find or understand, so let us begin by looking at what the UCC's Intranet has to offer.

Slide 6:

Here is a sample page of what you will see when logging into your Intranet portal. Please take a few minutes and click on the different links to discover what information is available to you as you browse the site.

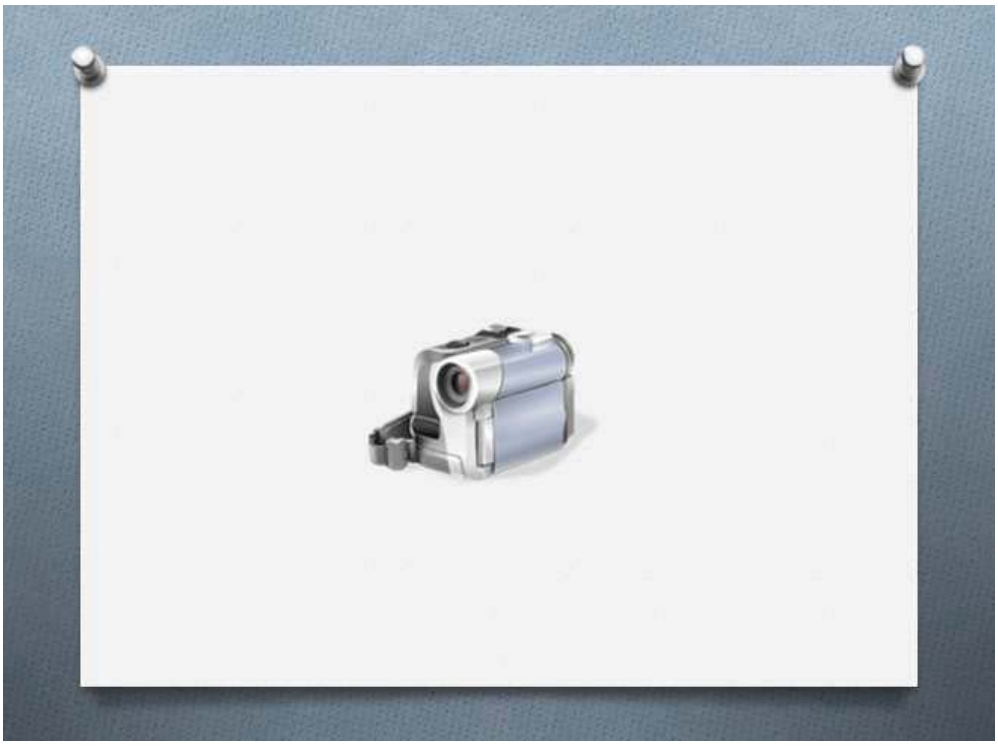
What did you discover? Was the information easy to find?

While in the Intranet site, begin to navigate to the company's university site to learn how to register and obtain permissions to begin other training.

Notes:

Provide participants opportunity to share their discoveries

Slide 7:



Watch video presentation of the stories about the culture

Have Q&A session

Have two current employees, IT managers, HR representative, and trainer expand upon the culture of the company.

Notes:

Provide participants with 10 minutes to write a paragraph about what they feel the company culture is. Once they finish the paragraph, the participants will share with the trainer, HR representative, IT managers, and current employees their ideas.

Slide 8:

Now we are going to talk about the roles and responsibilities that are a part of your everyday jobs and job tasks. You bring with you expectations and some understanding of your roles and responsibilities, however, it is important to understand them from your company's viewpoint. You are going to break out into groups again, yet this time an IT manager and a current employee will join you in order to discuss what are those roles and responsibilities.

Notes:

Each employee will provide a story

Open microphone for sharing about the culture

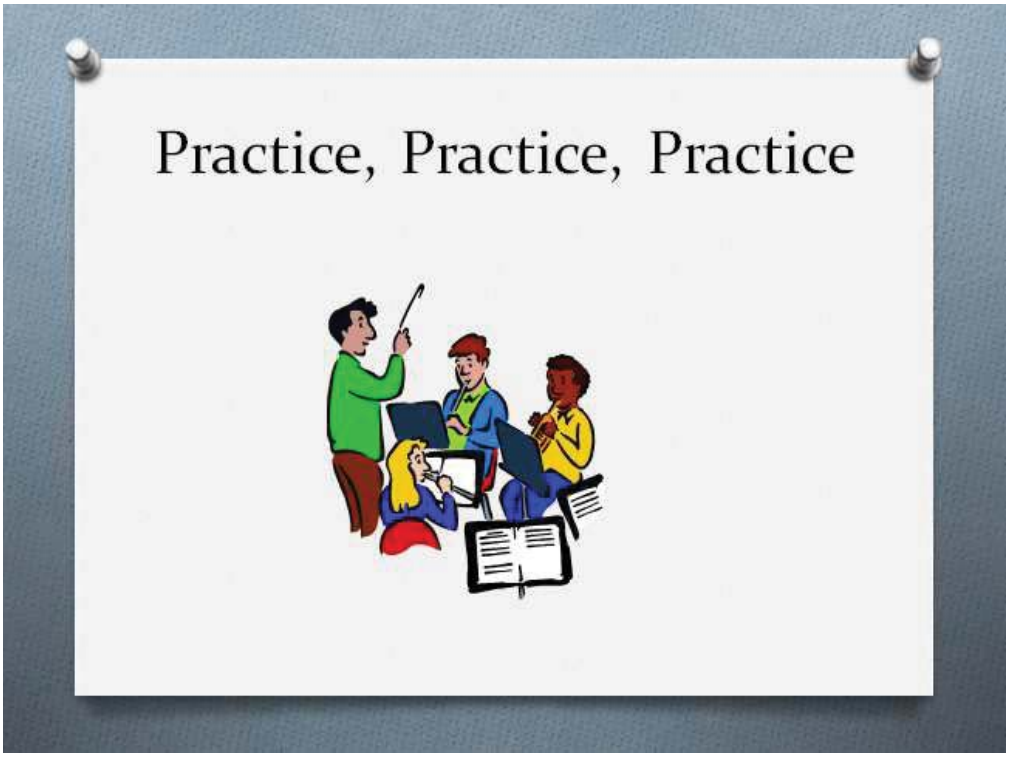
Slide 9:

Now that we have taken a break, let us get into how to set up your equipment for creating the programming necessary for the equipment to work. We need to begin with identifying what the equipment is, and then we can begin to put it together.

Notes:

Trainer will identify each piece of equipment; afterwards the trainer will provide a demonstration of how to work with the equipment. Participants will practice with standard setup of equipment, and then the trainer will demonstrate how to configure the equipment for testing procedures.

Slide 10:



Practicing on the equipment will strengthen your understanding of how this equipment works. Now that you have practiced with the standard setup, I am going to show you how to set it up in your home or office so that you can perform tests before implementing it at the customer site.

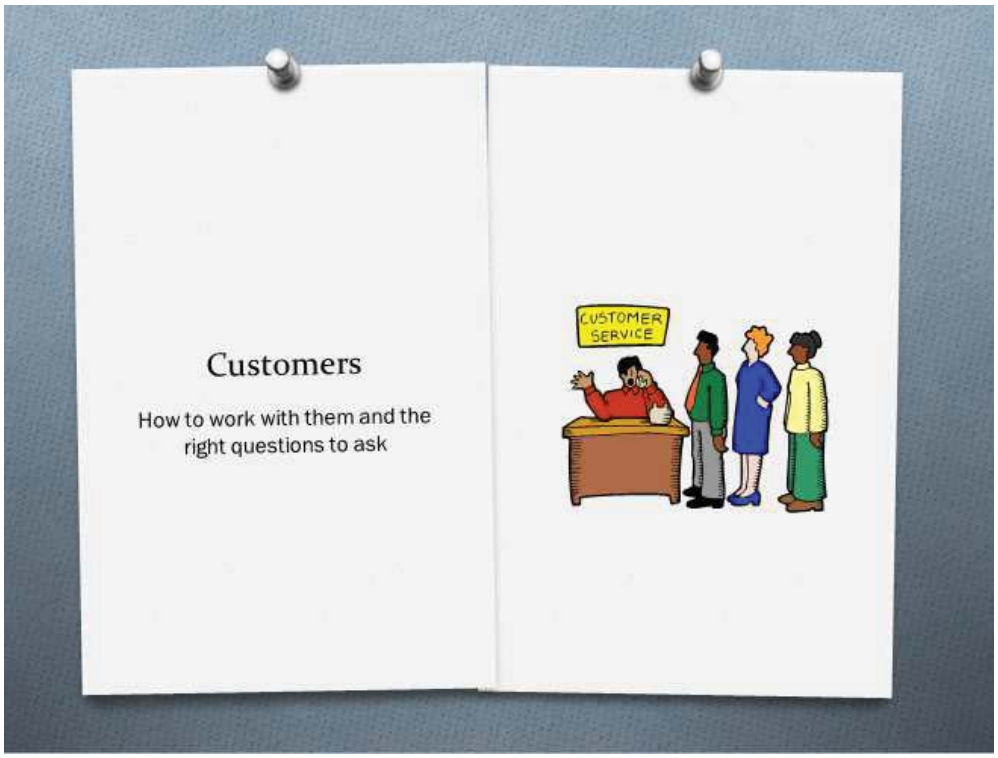
Notes:

Experienced and college hires will be grouped and will work together to test each other's configurations.

Q&A session with trainer

Open microphone for sharing

Slide 11:



This is where you will learn how to provide excellent customer service while making your job easier. We all deal with customers, but what are some scenarios for dealing/working with customers?

However, getting the appropriate and correct information takes time and practice as does understanding what the right questions are to ask. One question would be to ask what they are using the communications equipment for, knowing that will provide you with a comprehension of where to begin. I want you to discuss with your shoulder partner to your right what some other great questions would be.

Notes:

Participants will divide into groups – customer and programmer

Slide 12:

Before we conclude today, we have one more activity about stories on how to find mentors, assigned to a mentor while in the training, and on how to grow their personal networks for job success and longevity.

Do you remember the activity earlier in the day where we introduced someone else? Those people you interviewed and introduced to the rest of us are a part of your growing personal network at the UCC.

Notes:

Have participants watch video and then have Q&A session to discuss. Then have current IT employees discuss with newly hired IT staff about mentors and growing their personal networks. Participants will choose or assigned to their mentors

Training Presentation Rubric for Trainer

	Outstanding	Satisfactory	Improvement	Incomplete
Content	Participant is able to repeat the demonstrations and shows great understanding of how to configure the equipment, understands in detail what the culture is, and knows how to navigate through the Intranet or UCC University	Participant is able to repeat the demonstrations and shows an understanding of how to configure the equipment, what the culture is, and shows an understanding how to navigate through the Intranet or UCC University	Participant is partially able to repeat the demonstrations and begins to show understanding of how to configure the equipment, what the culture is, or how to navigate through the Intranet or UCC University	Participant is not able to repeat the demonstrations and shows no understanding of how to configure the equipment, what the culture is, or how to navigate through the Intranet or UCC University.
Clarity	Clear and concise writing on what the culture is	Somewhat clear and concise writing on what the culture is	Vague, very little logic behind what the culture is	Shows no logic behind what the culture is
Organization	Learner clearly shows equipment configuration and how to navigate Intranet or UCC University	Learner clearly shows equipment configuration and how to navigate Intranet or UCC University	Learner shows some clarity, not concise on their equipment configuration or how to navigate Intranet or UCC University	Learner lacks clarity and does not provide equipment configuration or how to navigate Intranet or UCC University

Participant Evaluation Sheet

We appreciate your help in evaluating this program. Please indicate your rating of the presentation in the categories below by circling the appropriate number, using a scale of 1 (low) through 5 (high).

Evaluation	
OBJECTIVES	
This program met the stated objectives of:	
1. Being able to navigate the UCC's Intranet site	1 2 3 4 5
2. The ability to find and discover further training offered	1 2 3 4 5
3. Beginning to learn about the culture of the UCC	1 2 3 4 5
4. Understanding how to access necessary information for their roles and responsibilities	1 2 3 4 5
5. Being able to configure the equipment for testing purposes	1 2 3 4 5
SPEAKERS (in general)	
The speakers were:	
1. Were knowledgeable in the content areas	1 2 3 4 5
2. Consistent with stated objectives	1 2 3 4 5
3. Able to clarify in response to questions	1 2 3 4 5
CONTENT	
The content:	
1. Was appropriate for intended audience, and provided information that was useful to all experience levels	1 2 3 4 5
2. Was consistent and clear based on stated objectives	1 2 3 4 5
TEACHING METHODS	
The teaching methods provided:	
1. Visual aids (Job Aid), a manual, and presentations/demonstrations to clarify content	1 2 3 4 5
2. Were appropriate for all experience levels and subject matter	1 2 3 4 5

1. What was the importance, in your opinion, of the information presented? Was it clearly indicated by the trainer?

2. Do you feel that the information presented was adequate for achieving personal and professional goals? Why or why not?

3. Did you feel that you could apply what you learned throughout the program to be immediately successful? Why or why not?

4. How could this program be changed, for the better, to meet the learning needs of the participants, or should it be changed? Why?

_____

_____

_____

_____

_____

_____

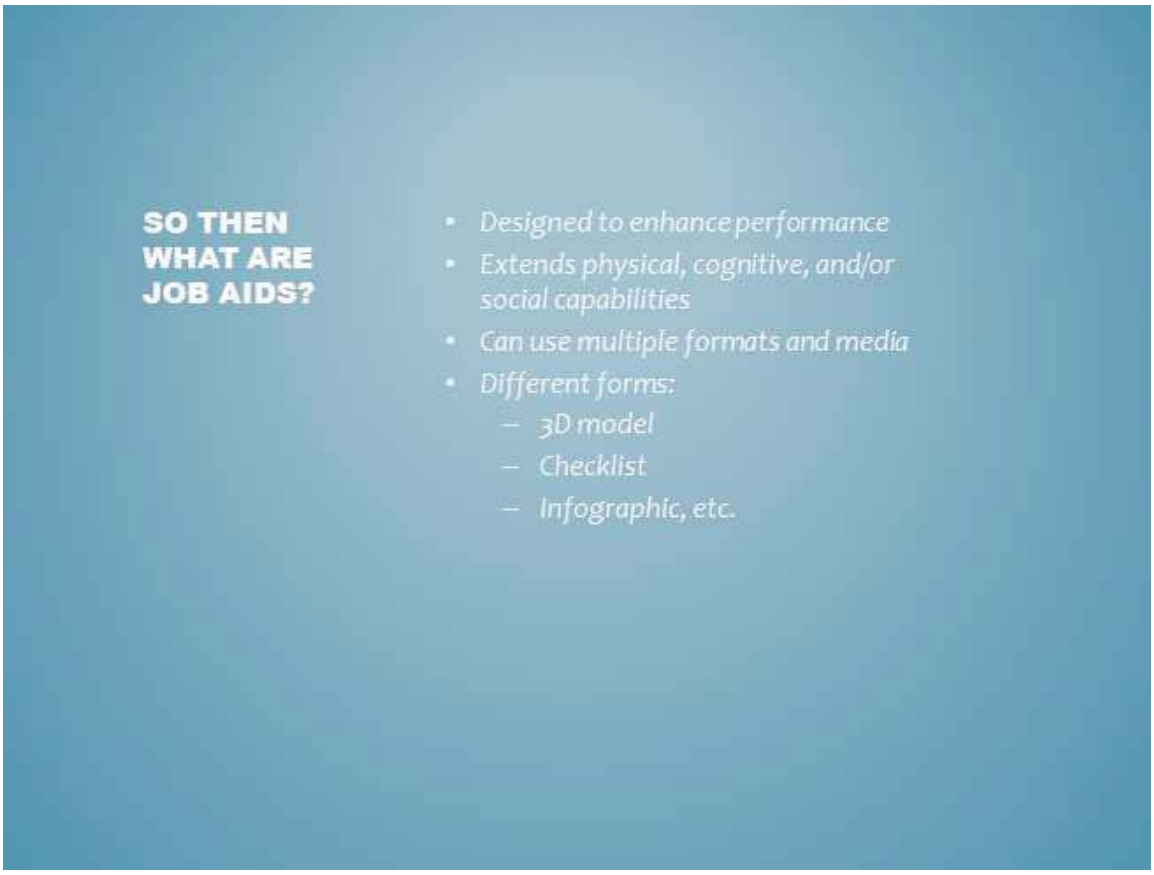
_____

_____

THANK YOU

Project Presentation and Implementation: Job Aids


JOB AIDS AS LEARNING SUPPORT...
To increase and retain learning, learning transfer was important for more than just retention, but for the applicability of learning (Lim & Morris, 2009). Learning transfer was the process by which people take what they learned in one setting and were able to apply it to another, thereby using the information they learned to become more productive (Hager & Hodkinson, 2009; Leberman et al., 2006). Consequently, the use of job aids would assist in it being proffered:
as a cultural artifact that can provide a snapshot of the culture from which it operates. This can be of value because viewing the job aid within a broader perspective of social history may enable... researchers and practitioners to reflect more critically on training and development vis-à-vis social responsibility and the corresponding social justice. (Kopp et al., 2010, p. 210)


SO THEN WHAT ARE JOB AIDS?
• Designed to enhance performance
• Extends physical, cognitive, and/or social capabilities
• Can use multiple formats and media
• Different forms:
– 3D model
– Checklist
– Infographic, etc.


WHY JOB AIDS?
Billions of dollars are spent on training and development without a thought to learning transfer
Findings of the study showed the need for more than an informal learning
IT hires need more than just the basics to be successful
To increase and retain technical knowledge, there was a need to ensure the transfer of learning
Guarantee learning support before, during, and after
Can be tailored to their specific jobs or job tasks

JOB AIDS WOULD REDUCE...

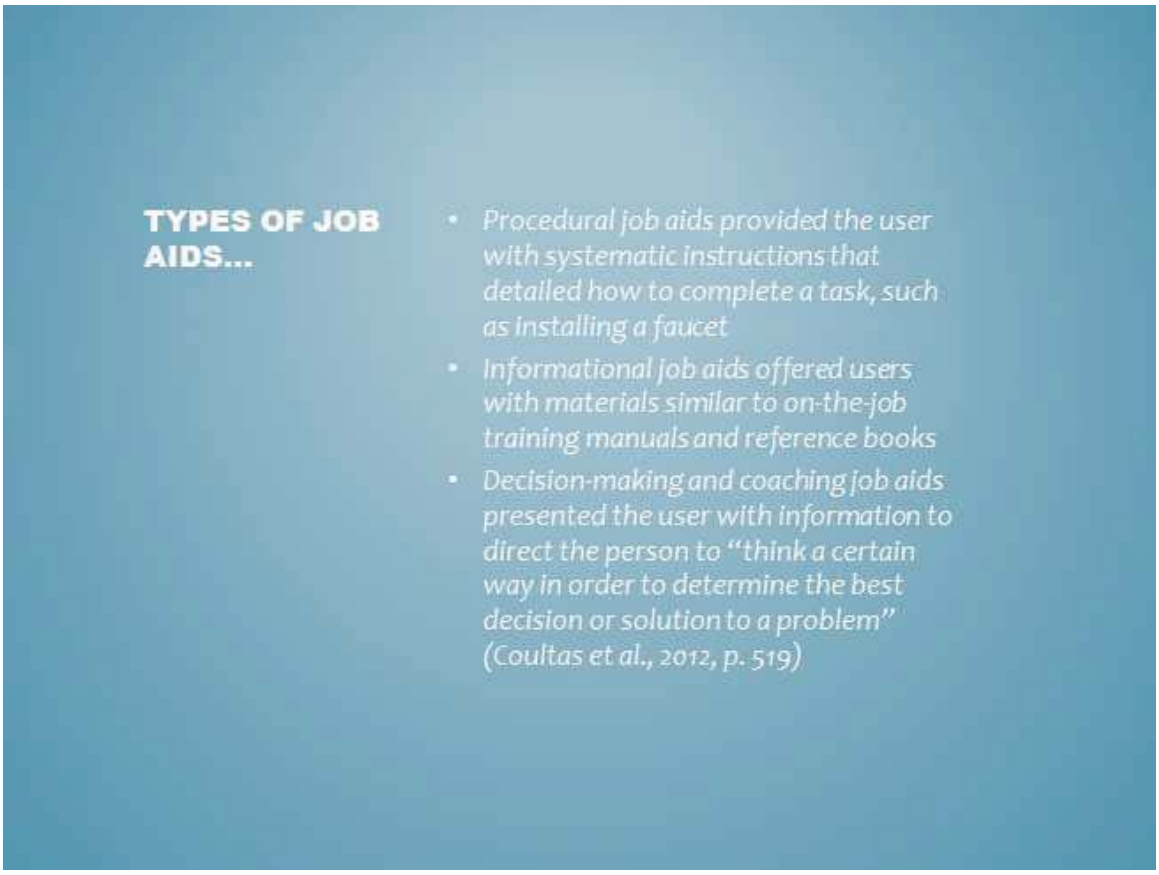
Information Overload (cognitive overload)

- *Detrimental to the new IT hires' learning because it inhibited learning and performance*
- *Increases the chances and frequency of the employees forgetting what they learned (Farrington, 2011)*
  - *"learners forget information most rapidly after the conclusion of a learning event" (Lanese & Nguyen, 2012, p. 18)*
- *Confirmed a transfer of learning while reducing the need for memorization to facilitate the transfer of learning (Salas et al., 2012)*


JOB AIDS WOULD REDUCE...
Amount of money spent on training
A brief and low cost guide that could reduce the amount that companies spent on training
Offered a quick refresher of information or specific tasks, eliminating the need for some types of training
visuals aligned with the text and the goals of the training program promoted and improved learning and recollection (Clark & Lyons, 2011)

JOB AIDS...

- *New IT personnel had the ability to navigate through their learning when time was of the essence and enhance performance while guiding and increasing confidence (Burke & Hutchins, 2008; Coloma, Parry, & Berdie, 2010; Gladney, 2011; Salas et al., 2012)*
- *Without the support of training, well designed and properly implemented training programs would fail to yield the longterm and short term results expected*


TYPES OF JOB AIDS...
Procedural job aids provided the user with systematic instructions that detailed how to complete a task, such as installing a faucet
Informational job aids offered users with materials similar to on-the-job training manuals and reference books
Decision-making and coaching job aids presented the user with information to direct the person to "think a certain way in order to determine the best decision or solution to a problem" (Coultas et al., 2012, p. 519)

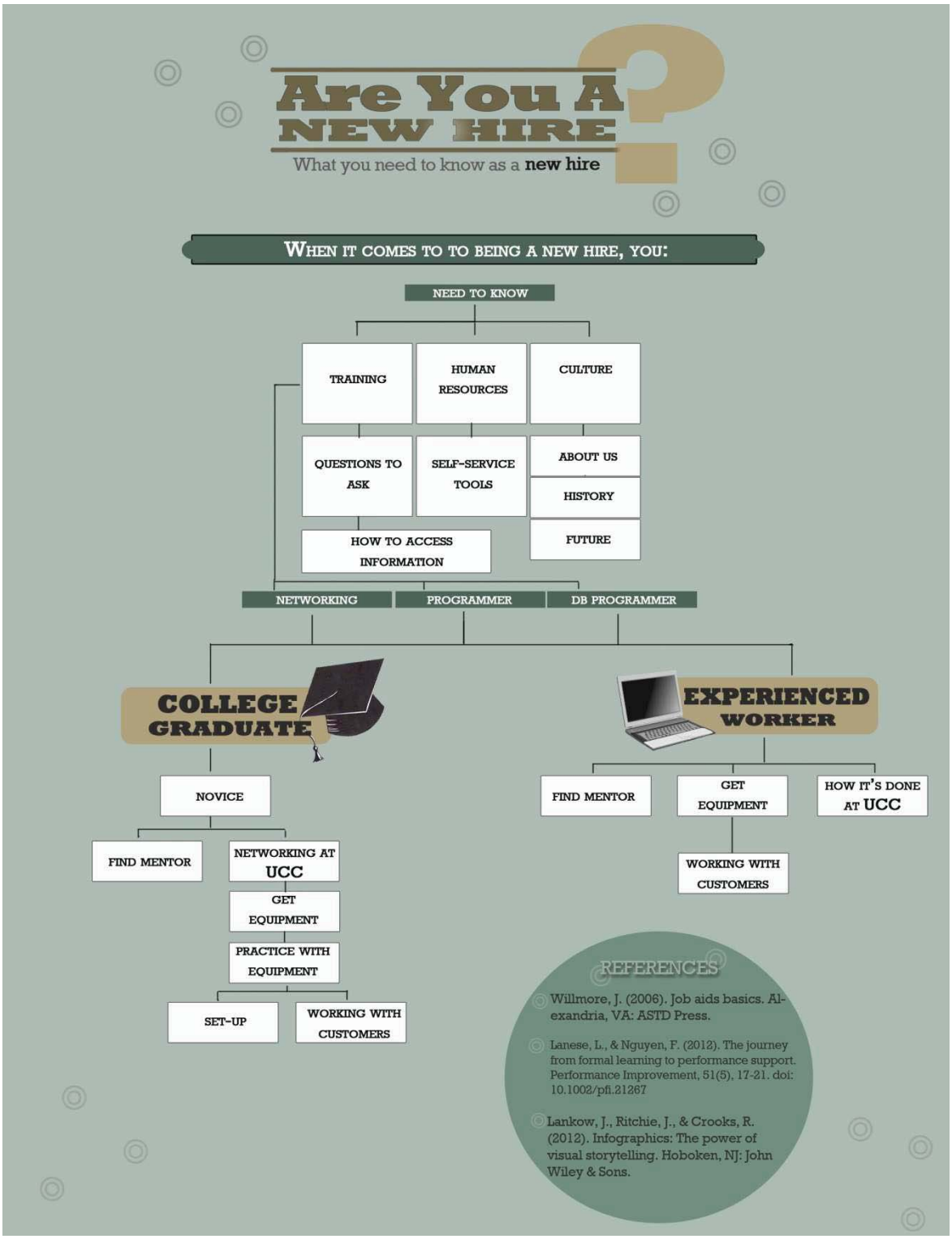

BEST FITTING JOB AID FOR THE UCC...
Decision-making and coaching job aids
"IT is about problem solving..." (Participant # 4; Johnson, 2010; Rothwell & Whiteford, 2011)
Can be used throughout the training and after, and provide the user with cues to guide them in the direction to the optimal path for a solution
Because of the combination of orientation and onboarding of new IT hires to accommodate immediate productivity and to increase and preserve technical knowledge.


JOB AIDS...
Provide learning when time was of the essence, the task was ambiguous, or difficult to remember...
?

Evaluation of Job Aids

The evaluation process recommended for the job aid would be to use Kirkpatrick's four levels of evaluation that included reaction, learning, application on the job, and business results. In addition to those four levels, Willmore (2006) recommended to add in a fifth level, return on investment or ROI.

The first level pertains to a reaction that requires a formative type of evaluation to obtain the participant or user comments. This level aids in the initial drafts of the job aid. Level two pertains to the degree to which the learning and/or skills were acquired, although there will be instances where this would pertain to a job aid in order to evaluate them when they are used for teaching new skills. However, this level is not as paramount to the job aid evaluation since the goal of job aids is not to teach something new, but to support the current learning needed. Level three measures the performance of the person on the job, and whether they have changed the work performance and obtained results – was the performance gap closed in order to improve performance and considered the most common type of evaluation for assessing the job aid. Level four measured the results of the business, such as did sales increase, was customer retention improved, or were there decreases in costs. This is an easy level if there is a clear and legitimate trigger to start the design process. Finally, level five distinguishes between met organizational goals versus whether the goals were worth achieving in the first place. This level provides the designers with an understanding of the idea that the job aid may not provide the best business result, but the lower cost increases the ROI (Willmore, 2006).


Are You A NEW HIRE?
What you need to know as a new hire
WHEN IT COMES TO TO BEING A NEW HIRE, YOU:
NEED TO KNOW
TRAINING
HUMAN RESOURCES
CULTURE
QUESTIONS TO ASK
SELF-SERVICE TOOLS
ABOUT US
HISTORY
FUTURE
HOW TO ACCESS INFORMATION
NETWORKING
PROGRAMMER
DB PROGRAMMER
COLLEGE GRADUATE
EXPERIENCED WORKER
NOVICE
FIND MENTOR
NETWORKING AT UCC
GET EQUIPMENT
PRACTICE WITH EQUIPMENT
SET-UP
WORKING WITH CUSTOMERS
FIND MENTOR
GET EQUIPMENT
HOW IT'S DONE AT UCC
WORKING WITH CUSTOMERS
REFERENCES
Willmore, J. (2006). Job aids basics. Alexandria, VA: ASTD Press.
Lanese, L., & Nguyen, F. (2012). The journey from formal learning to performance support. Performance Improvement, 51(5), 17-21. doi: 10.1002/pfi.21267
Lankow, J., Ritchie, J., & Crooks, R. (2012). Infographics: The power of visual storytelling. Hoboken, NJ: John Wiley & Sons.

Appendix B: Consent Forms

Email Participation Request
TO: Research Study Participants
From: Dory L. Morris

I appreciate the opportunity to request your participation in the three rounds of data collection, part of the research work I am doing for my doctoral project at Walden University.

The purpose of this research is to examine what learning is needed, how to increase technical knowledge in the absence of onboarding assessments and evaluations, and the best ways to retain and increase knowledge for new IT hires. An essential part of my research is being able to survey, obtain journal entries, and interview IT professionals like you that are former employees of the Unified Communications Company (UCC). The intent of this research is to show the importance of assessing and evaluating learning progress in onboarding programs to increase learning based upon your experiences as former IT hires at the UCC. The goal is an improved understanding of how assessing learning prior to the onboarding process and evaluating the learning after the onboarding process.

Any information obtained in connection with this study's data collection periods will be kept confidential. In any written reports or publications, no one will be identified or identifiable and only group data and quotes will be presented. No information will be released to a third party. I will keep the research results in my home office, and only my advisor and I will have access to the records while I work on this project. I anticipate having the data analyzed by August 25, 2013, and I will keep the records for a period of five years as required by Walden University's policies and then destroy all original records and identifying information that can be linked back to you, all locked in a drawer in my home office. Your participation is strictly voluntary and you may withdraw from the study at any time.

If you would like to participate in this research study, please contact me at dory.morris@waldenu.edu and I will send you the necessary information to ensure complete understanding of the study. If you have any questions pertaining to this research study, please feel free to contact me off line at 610-573-1863, or at dory.morris@waldenu.edu.

RESEARCH CONSENT FORM

You are invited to take part in a research study about onboarding and new IT hires. The researcher is inviting adult information technology workers to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by Dory Morris, who is a doctoral student at Walden University under the supervision of Dr. William Shecket, a faculty member in the Ed.D program. You were selected as a possible participant in this research because you are an Information Technology professional and have been a new hire with the Unified Communications Company. Please read this form and ask questions before you agree to be in the study

Background Information:
The purpose of this study is to examine what learning is needed, how to increase technical knowledge in the absence of onboarding assessments and evaluations, and the best ways to retain and increase knowledge for new IT hires.

Procedures:
If you agree to be in this study, you will be asked to:

- Participate in writing in a journal daily for two weeks to write about what information is needed within the first few months for new IT hires, what questions should be asked by new IT hires, and ways for future new IT hires to find and learn what information is needed to become successful and productive
- Partake in a survey that will last approximately 25-30 minutes, have 25 questions, and provide the information necessary to understand what the former IT employees think that new IT hires need that would be helpful in increasing the technical knowledge to be successful employees
- Lastly, participate in an interviewing session that will last approximately an hour to an hour and a half to obtain a better understanding of what the former IT employees think and feel about using onboarding as a means to increase and retain technical knowledge of new IT hires.
    - ❖ These interviews will be audio recorded for later transcription by the researcher and will be returned to you once transcribed to ensure accuracy of what you said in the interview.

Here are some sample questions:

5. Since the Unified Communications Company did not have onboarding as of late, how could a company use onboarding to assess and evaluate current and future knowledge needed?
6. What assessments provide the best information to understand the new IT hires current knowledge?

Voluntary Nature of the Study:
This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one will treat you differently if you decide not to be in the study. However, if you do decide to join the study now, you can still change your mind during or after the study. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, stress, or becoming upset. Being in this study would not pose risk to your safety or wellbeing. In addition, being a part of this study, I will ensure that your information remains confidential by removing all identifiers unless you specifically and explicitly state otherwise.

The anticipated benefits of the research for the participants would be that they will be able to take the knowledge they learned from participation and apply it to their current roles or companies to ensure that new IT hires (or new hires in general) will be able to learn and continue in their roles with confidence.

Payment:
There will not be any payment for participating within the study.

Privacy:
Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by all signed documents locked in a desk drawer in the researcher's home office and electronic data will be saved in a password-protected database on a personal laptop, computer, external hard drive, and thumb drive. Emails will be printed and recorded and transcribed interview sessions locked in a desk drawer in the home office. Data will be kept for a period of at least 5 years, as required by the university, and will be destroyed afterwards.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via dory.morris@waldenu.edu or 610-573-1863. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **02-08-13-0189050** and it expires on **February 7, 2014.**

The researcher will give you a copy of this form to keep or please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing below or replying to this email with the words, “I consent”, I understand that I am agreeing to the terms described above.

Printed Name of Participant _____

Date of consent _____

Participant’s Signature _____

Researcher’s Signature _____

RESEARCH CONSENT FORM (Pilot Participation)

You are invited to take part in a research study about onboarding and new IT hires. The researcher is inviting adult information technology workers to be a part of a pilot for the survey instrument. This form is part of a process called "informed consent" to allow you to understand the purpose of the study and the pilot survey before deciding whether to take part.

This pilot study is being conducted by Dory Morris, who is a doctoral student at Walden University under the supervision of Dr. William Shecket, a faculty member in the Richard W. Riley Ed.D program. You were selected as a possible participant in this research because you are an Information Technology professional and have been a new hire. Please read this form and ask questions before you agree to pilot the survey for the study.

Background Information:
The purpose of this study is to examine what learning is needed, how to increase technical knowledge in the absence of onboarding assessments and evaluations, and the best ways to retain and increase knowledge for new IT hires.

Procedures:
If you agree to pilot this study, you will be asked to:

- Partake in a survey that will last approximately 25-30 minutes, have 25 questions, and provide the information necessary to understand what the former IT employees think that new IT hires need that would be helpful in increasing the technical knowledge to be successful employees
    - ❖ You will be marking questions to let me know which questions make sense
    - ❖ Mark which questions need more clarification and
    - ❖ Mark which questions should be removed

Here are some sample questions:

7. Since the Unified Communications Company did not have onboarding as of late, how could a company use onboarding to assess and evaluate current and future knowledge needed?
8. What assessments provide the best information to understand the new IT hires current knowledge?

Voluntary Nature of the Study:
The piloting of the survey is voluntary. Everyone will respect your decision of whether or not you choose to pilot the study. No one will treat you differently if you decide not to pilot the study. However, if you do decide to pilot the study now, you can still change your mind during or after the pilot. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, stress, or becoming upset. Piloting this study would not pose risk to your safety or wellbeing. In addition, piloting this study, I will ensure that your information will remain confidential by removing all identifiers unless you specifically and explicitly state otherwise

The anticipated benefits of the research for the participants would be that they will be able to take the knowledge they learned from participation and apply it to their current roles.

Payment:
There will not be any payment for piloting the study.

Privacy:
Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of piloting this survey. Also, the researcher will not include your name or anything else that could identify you to others who will participate in the study. Data will be kept secure by all signed documents locked in a desk drawer in the researcher's home office and electronic data will be saved in a password-protected database on a personal laptop, computer, external hard drive, and thumb drive. Emails will be printed and locked in a desk drawer in the home office. Data will be kept for a period of at least 5 years, as required by the university, and will be destroyed afterwards.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via dory.morris@waldenu.edu or 610-573-1863. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **02-08-13-0189050** and it expires on **February 7, 2014.**

The researcher will give you a copy of this form to keep or please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing below or replying to this email with the words, "I consent". I understand that I am agreeing to the terms described above.

Printed Name of Participant _____

Date of consent _____

Participant's Signature _____

Researcher's Signature _____

TO: Research Study Participants
FROM: Dory L. Morris

I appreciate the opportunity to request your participation in the three rounds of data collection, part of the research work I am doing for my doctoral project at Walden University.

The purpose of this research is to examine what learning is needed, how to increase technical knowledge in the absence of onboarding assessments and evaluations, and the best ways to retain and increase knowledge for new IT. An essential part of my research is being able to survey, obtain journal entries, and interview IT professionals like you that are former employees of the Unified Communications Company (UCC). The intent of this research is to show the importance of assessing and evaluating learning progress in onboarding programs to increase learning based upon your experiences as former IT hires at the UCC. The goal is an improved understanding of how assessing learning prior to the onboarding process and evaluating the learning after the onboarding process.

Any information obtained in connection with this studies data collection periods will be kept confidential. In any written reports or publications, no one will be identified or identifiable and only group data and anonymous quotes will be presented. No information will be released to a third party. I will keep the research results in my home office, and only my advisor and I will have access to the records while I work on this project. I anticipate having the data analyzed by August 25, 2013, and I will keep the records for a period of five years as required by Walden University's policies and then destroy all original records and identifying information that can be linked back to you, all locked in a drawer in my home office. Your participation is strictly voluntary and you may withdraw from the study at any time.

Thank you for your time and participation in this research study. If you have any questions pertaining to this research study, please feel free to contact me off line at 610-573-1863, or dory.morris@waldenu.edu.

Appendix C: Journal Prompt

You are being asked to participate in writing in a Word document journal (daily) for two weeks. Write about what information new IT hires need to know within the first few months. In addition, write about what questions new IT hires should ask, and ways for future new IT hires to find and learn what information is needed to become successful and productive based upon being a former employee, and new IT hire at the Unified Communications Company.

Appendix D: Survey

1) Please provide your position title within your company.

☐Individual contributor/contractor
☐Director
☐Supervisor
☐Senior/Executive management
☐Manager
☐Consultant

2) Does your company have a Training and Development organization?

☐Yes, it is a separate function.
☐No
☐Yes, it is part of a larger group such as Human Resources
☐Other

Onboarding is defined as those training and orientation activities that are necessary to bring a new employee into the company. The onboarding period starts from the hiring decision and may last as long as the employee's first six months.

3) Please refer to the above definition of onboarding. Which of the following onboarding activities are performed to aid the orientation of a new employee to your company? Please check all that apply.

☐There are no specific onboarding activities.
☐The company has an onboarding program administered through a department such as HR or Training and Development.
☐The company provides orientation training.
☐The manager holds regular meetings with each new employee individually to monitor their employee's progress assimilating into the new company.
☐Other

4) Please refer to the above definition of onboarding. Which of the following onboarding activities does your company provide to train a new employee to perform their new job?

☐There is a formal, required training period of at least several weeks duration.
☐The manager gives each new employee a formal, self-administered training plan and monitors the due dates for each item.
☐The manager arranges on-the-job training, i.e. performance of hands-on training activities under the guidance of a certified or recognized Trainer.
☐No specific job-related training is provided.
☐Other

5) In your experience, to what extent do onboarding activities impact an employee's learning curve.

☐Positive impact ☐Negative impact

☐Neutral ☐Don't know

Please comment on your experience.

6) How does your company monitor its success with onboarding new employees?

7) Are you satisfied with your company's onboarding process?

☐Very satisfied ☐Mildly dissatisfied

☐Somewhat satisfied ☐Very dissatisfied

☐Neutral ☐Don't know

Please comment on your experience.

8) What do you believe is the formula for new employee success? Is it -

☐100% new employee effort. ☐100% manager effort.

☐50:50 new employee and manager working together. ☐More complicated than the above. Please comment.

9) What do you believe is the most successful strategy your company uses to bring new employees into the company?

10) Since the Unified Communications Company did not have onboarding, how could a company use onboarding to assess and evaluate current and future knowledge needed? Please explain in the box below.

11) How would you rate what you learned during your first day, as it pertained to being fully productive?

☐Very satisfied
☐Somewhat satisfied
☐Neutral
☐Mildly dissatisfied
☐Very dissatisfied
☐Don't know

12) Did your job title explain your role appropriately?

☐Yes, clearly
☐Yes, somewhat clearly
☐No, not totally clear
☐No, not at all
☐Don't know

13) Were you satisfied with the amount of information available to help you understand the culture of the company?

☐Very satisfied
☐Somewhat satisfied
☐Neutral
☐Mildly dissatisfied
☐Very dissatisfied
☐None was provided

14) If material was sent out prior to your first day, was it helpful?

☐Yes, very helpful
☐Yes, somewhat helpful
☐Neutral
☐No, not helpful
☐Was not sent

15) If material was not sent out prior to the first day, would it have helped?

☐Yes, it would help
☐No, it would not help
☐Other. Please explain your thoughts or experiences with this.

16) In your experience, would access to a mentor have helped to learn and understand your role in the company?

☐Positive impact ☐Negative impact

☐Neutral ☐Don't know

Please explain your experience.

17) Was there adequate support to partake and provide your voice in the learning environment? Why or why not? How could it have been better? Please provide your answer below.

18) Were you engaged in the learning process?

☐Yes, a lot ☐No, not much

☐Yes, somewhat ☐No, not at all

☐Neutral

19) If you weren't engaged or engaged enough, what could have made the learning process better to make you more engaged?

20) How would you rate the communication about available training and whom questions should be addressed to?

☐Very satisfied ☐Mildly dissatisfied

☐Somewhat satisfied ☐Very dissatisfied

☐Neutral ☐Don't know

21) Was the training you received enough to prepare you for your role?

☐Yes, a lot ☐No, not much

☐Yes, somewhat ☐No, not at all

☐Neutral

22) Did you feel confident that you could apply the material learned in the initial training to the job tasks?

☐Yes, a lot ☐No, not much

☐Yes, somewhat ☐No, not at all

☐Neutral

23) How would you rate the training available to you for your promotion?

☐Very satisfied ☐Mildly dissatisfied

☐Somewhat satisfied ☐Very dissatisfied

☐Neutral ☐Other

24) Was there enough training and time available to feel acclimated to your roles?

☐Yes, a lot ☐Neutral

☐Yes, somewhat ☐No, not much

☐No, not at all

If no, why and what would you change? [ ]

25) Onboarding requires consistent and constant feedback throughout for the new hire or newly promoted person. Based on that definition, was there enough feedback during your onboarding that helped your productivity?

☐Yes, a lot ☐No, not much

☐Yes, somewhat ☐No, not at all

☐Neutral

Appendix E: Interview Questions

Interview Questions

Interviewee:

Position:

Date:

1. What assessments provide the best information to understand the new IT hires current knowledge?
2. What questions should be asked to aid in evaluating the future knowledge needed?
    a) Do you feel that it should be done incrementally, say every week, or every two weeks?
    b) Should it be a mix of formal and informal feedback, just formal, or just informal?
3. What is the general IT knowledge needed to do the job? What would you say is the baseline to start from?
    a) Do you feel that a lot of times when you start a new job as an IT professional that a lot of the sense of teamwork is missing?
4. What information should be available to new IT hires to access to know what they need to learn? Basically, what information do you see as important for a new person in IT, a new IT hire, to know to be able to hit the ground running?

5. How do new IT hires find needed information? Should Google be the only strategy? What do you recommend?
6. How should the information be presented?
7. How does a person know that the information is specific enough and needed for their job function/role?
8. What are the processes that would assess current knowledge to increase technical knowledge?
9. How could mentorship help? Would that help build trust? Would you say it should be a part of onboarding? Or is it better to let people alone?
    a) Do you feel that it helps build trust between the company and the new hires when they have those mentors?
10. Do you think that knowledge of how the other departments work would help the person to learn?
11. If there were no current processes, what would you recommend?
12. How could self-service tools teach the culture of the company?
13. Would you want only the new IT hires to provide feedback at the end? Do you think some of the more experienced people, and up, should also look at the program once it's built to provide feedback as well?
14. For IT people, do you think that it's better to have able to meet their boss and the boss's boss, such as the CEO and other people that are c-level? Do you think that would help them be acclimated to their jobs a little better and them be more comfortable sooner?

15. Do you think that new IT hires should have a different onboarding process than new technical college hires?

Appendix F: Permissions

Subject : **Re: Using your survey for my Ed.D. Project and Dissertation**

Date : Mon, Sep 24, 2012 11:57 AM CDT

From : Jolynn Nelson [redacted]

To : Dory Morris [redacted]

Hi Dory,
By the way you have permission to use my survey questions. I just wanted to know more about your work.
Best regards,
Jolynn Nelson, MAOL

Sent from my iPhone

On Sep 23, 2012, at 9:01 PM, Dory Morris [redacted] wrote:

Hello,

My name is Dory Morris and I am an Ed.D. candidate. My research is on how on-boarding may make a difference in learning for new IT hires and during my research ran across your study. I was hoping to obtain your permission to use your survey questions. Thank you for your consideration, and if you would like more information about my study, please let me know.

Curriculum Vitae

DORY MORRIS

C: 610.573.1863 ▪ H: 610.530.2215
6572 Sauerkraut Ln ▪ Macungie, PA 18062
Email: dory.morris@waldenu.edu

LEARNING AND DEVELOPMENT

Training and Development, Instruction, and Adult Learning Professional

Expertise: One-to-one, blended solutions, curriculum

Deliver training to meet specific competencies, along with developing activities that support training objectives; be they project management or training documents/lesson plans. Convey learning-centered instruction, with pre-described exit strategies for achievement and evaluation along with providing remote or in-person training. Provide working knowledge of hardware and software applications, proprietary or open source. Guide projects from start to finish, on time and on budget, while ensuring transfer of learning and project success based on project management and training experience.

- Learning Management
- Business/Tech Communication
- Training & Development
- Project/Resource Management
- Software Training
- Instructional Design
- Deadline Management
- Needs Assessment
- Software Implementation

Professional Experience

[redacted] 06/2013 to Present

Adjunct Professor – IT

Designs and delivers class instruction through the development of instructional plans to meet course competencies. Develop activities supporting lesson objectives, and deliver instruction, fostering competencies. Establish student performance criteria and evaluation, utilizing learning-centered instruction and create a classroom environment conducive to learning for adult students. Exhibit flexibility in style, and engage students in the learning process.

- Utilize instructional design to create interactive learning

[redacted] 12/2010 to Present

Learning Manager

Collaborates with business leaders and managers to identify training needs and trends within the business while designing, both in-house and with expert third parties, a solution that includes a blended approach to learning such as coaching, classroom training, one-to-one sessions, action learning, & e-learning. Deliver blended solutions and training sessions to delegates; manage, and oversee the development of the training team. Manage training budget while performing assessments to determine the who, what, when, how, and why of training in order to fill learning gaps, utilizing training models such as the interactive model, Andragogy, experiential learning model, and Boone's conceptual programming model.

- **Oversee a direct team of five training and development professionals**
- **Increased organizational learning by 20%**
- Research ways to modify and increase learning in business and technical utilizing ID software
- Increased knowledge acquisition by 15%

[redacted] 8/2009 to 11/2010

Full Professor

Designed and delivered class instruction through the development of instructional plans to meet course competencies. Developed activities supporting lesson objectives, and delivered instruction, fostering competencies. Established student performance criteria and evaluation, utilizing learning-centered instruction and created a classroom environment conducive to learning for adult students. Exhibited flexibility in style, and engaged students in the learning process.

- **Obtained retention rates for students within classes, approximately 20% over accreditation standard**
- Created curriculum for six new IT classes as a part of a new associate's degree in IT
- Created over four presentations for co-workers, deans, and students
- Assistant Editor for the monthly Business and Information Technology Dept. Newsletter

[redacted] 12/2005 to 5/2008

Software Specialist

Instruction included virtual and face-to-face instruction for government, non-profit, for-profit, educational, and corporate clients. Provided training on telephony products and platforms including the development and delivery of training materials to all levels, while being responsible for controlling, tracking, and reporting project progress. Provided remote post-sales support (such as moves, adds, changes, and deletions of software, systems, sub-systems, and/or applications) while managing ancillary end-user installations, configurations, upgrades, and migrations through first level problem isolation, verification, resolution, and documentation.

- **Increased customer-training satisfaction based upon customer feedback**
- **Boosted productivity and eliminated project management errors and scope creep**
- Presented to over 20 different companies on telephony products and programs

Education

Doctorate of Education, Adult Education – Walden University
Expected Graduation 2013

Master of Information Technology, Internet Security – American InterContinental University (AIU)
Graduated in 2005 with Honors

Bachelor of Information Technology, Computer Systems – American InterContinental University (AIU)
Graduated in 2004 Summa cum Laude

Technical Inventory

Platforms: XP H&P / NT Server / Vista /Windows 7 / 2003 Server

Software: Articulate ELearning Studio 09, Articulate Storyline, SPSS 11**,** MS Office Professional 2007, 2010, Microsoft Visio 2010, Microsoft Project 2010, Microsoft SQL: SQL Server 2000, C#, HTML, XML, VM Ware

Hardware: PC Upgrades, Disk Drives, BIOS Configurations, Installation of Memory, Memory Updates, NAT, Active Directory, Router Configuration, DHCP, DNS, VPN

Certificates: Essentials of Project Management