

# Chapter 14

## Technological Tools to Enhance Workplace Learning among Virtual Team Members

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### ABSTRACT

*The number of virtual employees that are a part of a virtual team is rising. To cohesively work within a virtual team, employees need to improve their knowledge and skills, both soft and hard. However, teaching one how to improve his soft skills virtually may be difficult. To address this issue, this chapter proposes a design framework to facilitate workplace learning among virtual employees by synthesizing social cognitive theory, social presence theory, swift trust theory, and conflict attribution theory based on a literature review. The proposed design framework contends that in order to support intended workplace learning, virtual employees should have opportunities to enhance social presence, to establish reciprocal trust, and to resolve conflicts collaboratively. This design framework intends to augment existing instructional system design models and to expand current instructional design thinking that seldom recognize the importance of soft social and communication skills in enhancing employee's virtual learning experience.*

### INTRODUCTION

Learning in the workplace is a necessary means to improve employees' knowledge, skills, and abilities. As technology advances and organization expands on a global scale, the amount of employees working remotely (or virtually hereafter) from the organization's physical location is increasing, citing many good reasons. For example, work-

ing virtually allows for employee flexibility and virtual employees are inexpensive to organize as managers do not have to spend funds on travel and per diems (Jarvenpaa & Leidner, 1998; Johns & Gratton, 2013). As the number of these employees working virtually continues to rise, organizations place these employees into virtual teams to enhance collaboration and complete tasks in a timely manner (Orlikowski, 2008). For virtual employees

DOI: 10.4018/978-1-4666-9577-1.ch014

to learn the necessary skills to work well within a team, the organization needs to provide adequate training opportunities (Clarke, 2005; Lepsinger & DeRosa, 2010; McWhorter, 2010). Organizations, however, tend to train their virtual employees using existing online training programs without considering a unique set of need from off-site learners who cannot interact with their peers and supervisors face-to-face. While to a large extent these online training programs are adequately focused on improving an employee's hard skills such as using a new software system for tracking the company's finances (Noe, Wilk, Mullen, & Wanek, 2014; Pant & Baroudi, 2008), these online training programs usually do not address virtual employees' soft skill development. These soft skills traditionally encompass employee's inter (e.g. communicating well with others) and intrapersonal (e.g., controlling one's emotions) abilities (Laker & Powell, 2011; Pant & Baroudi, 2008). Soft skills play a critical role in sustaining the intended virtual learning processes to ensure successful completion of the tasks.

Organizations have adopted instructional system designs (ISD) that are useful for different technologies to help virtual employees develop or improve their soft skills when working in a team environment (Rothwell & Kazanas, 2011). Recent studies demonstrated the use of various technologies for virtual employees to improve their soft skills when working within virtual teams such as macro and microblogging (Razmerita, Kirchner, & Nabeth, 2014; Reynard, 2013; Turban, Liang, & Wu, 2011; Warkentin et al., 2011), video conferencing (Karpova, Correia, & Baran, 2009; Walter, Ortbach, & Niehaves, 2015), collaborative virtual worlds (Cheshin et al., 2011; Montoya, Massey, & Lockwood, 2011; So, 2009), and gaming (Huang, 2013; Raybourn, 2007). The results showed that virtual employees' work performances were higher as they were able to communicate with one another to get the tasks completed in a timely manner. These examples illustrate an improvement in employees interpersonal skills (i.e. improving

communication) and intrapersonal (i.e. ability to trust one another) with others in various contexts, but some of these techniques may be more or less able to improve a virtual employee's soft skills.

This chapter, therefore, identifies the strengths and weaknesses of technological tools used to develop or improve virtual employees' soft skills. Additionally, the chapter intends to augment ISD models by proposing a framework that creates a conducive virtual workplace learning environment that can support virtual employees' soft skill developments.

## **BACKGROUND**

### **The Necessity of Virtual Working Environment**

In 2012, there were 3.3 million people that worked virtually within the United States. However, it is estimated 64 million may work virtually as this statistic only considered full-time employees and not those who work virtually on a part-time basis (Global Workplace Analytics, 2013). Further estimations report within a few years 1.3 billion people around the globe will be working virtually (Johns & Gratton, 2013). There are a number of reasons employees work virtually such as convenience, flexibility, and cost. These opportunities also benefit the organization as they can contract employees for a short-term basis rather than hiring on a longer-term and having to pay benefits (Guo, D'Ambra, Turner, & Zhang, 2009; Johns & Gratton, 2013). Additionally, virtual employees who work collaboratively, out of necessity, are more likely to gain valuable knowledge to develop their expertise hence optimizing their performance (Ebrahim, Ahmed, & Taha, 2011; Liu, Magjuka, & Lee, 2008). Virtual employees are economical operational units in the workplace; however, there are challenges in a virtual work environment that may hinder one's ability to accomplish the job or task in a timely manner. Two challenges that are

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