ELSEVIER

Empowering followers in virtual teams: Guiding principles from theory and practice

Ashley A.G. Walvoord [a], Elizabeth R. Redden [b],
Linda R. Elliott [b], Michael D. Coovert [a,c,*]

[a] *Department of Psychology, University of South Florida, 4202 E. Fowler Ave. PCD 4118g, Tampa, FL 33620, USA*
[b] *Army Research Laboratory, ARL/HRED @ SAIC, Building 4, Rm 545, Fort Benning, GA 31905, United States*
[c] *MDC and Associates, Inc., 4004 Stanley Rd., Plant City, FL 33565, United States*

Available online 18 March 2008

Abstract

Effective leadership requires relationship skills such as – problem solving conflict management, motivation, communication, and listening [Yukl, G. A. (1998). *Leadership in organizations*. Upper Saddle River, NJ: Prentice Hall]. Arguably, nothing is more important to a leader than the skills involved in communicating one's intent to followers, for it is only through effectively transmitting intent that followers may understand and then execute the goals of the team and leader. The modern work-world is dominated by computer-mediated communication, and this communication is the bread and butter of virtual teams; however, simple transmission of information from point A to point B is not enough – the virtual environment presents significant challenges to effective communication. In this paper we review issues related to virtual teams and developments in multimodal displays that allow teams to communicate effectively via single or multiple modalities (e.g., visual, auditory, tactile). This discussion is grounded in guiding principles for design and use of information displays that were identified and culled based on multiple review criteria from an extensive review of the literature. We present an applied example of the utility of these guiding principles for multimodal display design, in the context of communicating a leader's presence to virtual followers via commander's intent.
© 2008 Elsevier Ltd. All rights reserved.

Keywords: e-Leadership; Teams; Computer-mediated communication

* Corresponding author. Address: Department of Psychology, University of South Florida, 4202 E. Fowler Ave. PCD 4118g, Tampa, FL 33620, USA.
  E-mail address: coovert@luna.cas.usf.edu (M.D. Coovert).

1. Introduction

In this era of growing popularity for virtual team structures in organizations, team members and leaders must respond to new and different job demands resulting from more distributed and international structures (e.g., research teams, corporate teams, medical teams). Team members must perform successfully with dispersed members, where tried and true traditional team processes may not be sufficient. Non-traditional settings or workstations can vary considerably in degree of isolation and technology-dependence, such that "distributed" teammates and leaders could function with occasional face-to-face interactions, or all communication might occur virtually. In these situations, virtual or distributed contexts necessitate a metamorphosis of traditional leader responsibilities to produce an adaptive function termed, "e-Leadership". e-Leaders must execute their leadership roles primarily through virtual communication (Zaccaro & Bader, 2002). In this paper we explore multimodal information display as an important target for intervention and prevention of virtual miscommunication, and we introduce the *Guiding Principles* – a tool for practitioners, researchers and designers to aid the development and use of information displays in a variety of areas, including virtual teams. The following sections review the needs of virtual team members ("e-Followers"), components of successful e-Leaders, and the basics of multimodal design in information displays. After describing the Guiding Principles tool, an extended example is presented in which the principles are employed to develop a system to convey commander's intent. The commander's intent application demonstrates the need for researchers to give additional consideration to the role of display modality in studies of virtual processes (e.g., leadership, justice, motivation, performance management, etc.).

2. Virtual teams

The foundational constructs that are important for success in traditional teams (e.g., trust, cohesion, satisfaction) are mirrored in virtual teams, however a key difference in virtual teams is the mediation by technology in the development and effectiveness of team communications. Geographic dispersion of team members requires the use of technologies, such as email, instant messaging, phone conferencing and webinars, to communicate and perform. These technologies provide an advantage in that they give, team members access to more information and media than ever before (Avolio & Kahai, 2003). However, a virtual environment can provide too many different communication technologies such that team members feel overwhelmed (Belanger & Watson-Manheim, 2006).

Communication between virtual team members serves not only in the exchange of critical information among team members working in different places, but also in the building of interpersonal relationships. Virtual networks can be strong structures for processing complex information or tasks, but unfortunately they are often weak structures for supporting interpersonal interaction and relationships (Jarvenpaa & Tanriverdi, 2002). Virtual communication often lacks contextual information, and it can foster perceptions of time pressure because alternatives to face-to-face communication (e.g., typing) are more time-consuming and effortful. Slower communication and misunderstandings among team members can lead to inadequate critical thinking, human error in information processing, uncertainty, perceived isolation, as well as reduced satisfaction, task- and organizational-commitment, trust, and team cohesion (Caballer, Gracia, & Peiro, 2005; Driskell, Radtke,