

## Chapter 12

# Scaffolding Solutions to Business Problems: Trust Development as a Learning Process

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### ABSTRACT

*Teams whose interactions are mediated entirely via internet-based communication, virtual teams, are becoming commonplace in businesses. Although trust has been identified as key for virtual teams to work effectively, researchers have not developed scalable methods that consistently promote trust. This study examines the formation of trust perceptions, which is inherently a learning process. Strategies employed to promote more traditional definitions of learning can be used to promote trust development. In this paper, the authors investigate how a strategy of modifying the design of the communication system for virtual teams can be used to promote perceptions related to trust. The authors conduct an experiment to examine the impact of a template-driven messaging system to scaffold the development of the three antecedents of trust—integrity, benevolence, and ability—within a virtual team environment and communication activity. The study shows that participants who used the template-driven messaging system perceived their team members as having a higher level of ability than those who used the regular system. Moreover, users of the template-driven environment authored more messages and read a greater percentage of the messages, suggesting that messaging scaffolds were successful in improving the flow of information and fostering an environment favorable to trust development.*

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## INTRODUCTION

Electronically mediated communication promises to continue to grow in overall volume and importance. It is not surprising that the challenge of creating an environments in which virtual teams can flourish and perform effectively has caught attention in both industry and academia. The steady growth of the digital organization with its temporary and distributed work combined with Internet-based tools continuing to become more sophisticated, virtual teams are likely to become more important in the future (Te'eni, 2001). Given that virtual teams interact entirely via computer-based systems, part of the solution to the problem of building a more effective virtual organization might lie in the design of the information systems these teams utilize. Well-designed communication support tools that affect not only the way in which a message is delivered but also the message itself can play a central role in creating an effective virtual team environment. In addition to drawing upon the existing body of literature in IS, one strategy for advancing our understanding of how to facilitate trust development in computer-mediated teams is to draw upon the strategy of scaffolding, which has been used successfully in other disciplines. The theoretical foundations of scaffolding provide a lens through which works previously conceptualized as separate areas, trust development and learning, can be viewed as jointly grappling with the same issue.

The purpose of this paper is to introduce the novel perspective that trust formation within groups is inherently a learning process. To illustrate the utility of this perspective we present the results of a study designed to investigate the impact of a system based on this perspective. The study involved the use of a template-driven asynchronous communication support tool designed to promote the antecedents of trust within virtual teams, thus providing useful information to software developers regarding their design of future communication support systems. We next review

the theoretical foundations of learning and trust development that underlie the design of a new computer-based communication support system and advance a research model and hypotheses. We then report on an empirical study examining the effectiveness of this new communication tool. The paper concludes with the discussion, implications, limitations and future directions for research in this area.

## Scaffolding

A scaffold can be conceptualized as any tool, procedure or aspect of the environment specifically engineered to assist an individual or group in performing a task for which they would otherwise be unprepared (Laffey, Tupper, Wedman, & Musser, 1998). Traditionally, scaffolds have taken the form of prompts designed to guide someone through a process. Scaffolding has been a popular learning support strategy in the field of education. For example, with the phonics approach to reading instruction (Snow, Burns, & Griffin, 1999) when a student struggles to read a word, the teacher might query him or her to slowly sound out the syllables in the word. If the student continues to struggle, the teacher might then cover up part of the word and ask the student to pronounce the first syllable. The act of questioning the student would be a discourse-based scaffold, whereas the act of covering up part of the word would be a physical scaffold. Other examples of physical scaffolds include cue cards (Scardamalia et al., 1984) and short skis used in teaching downhill skiing (Burton, Brown, & Fischer, 1984).

The theoretical foundations of scaffolding lie in multiple areas but primarily in Lev Vygotsky's work (Vygotsky, 1978). Vygotsky was a Russian cultural-historical psychologist who proposed a social development theory of learning. A important element of this theory is that learning happens through visible cultural interactions which are mediated by language and symbols. For Vygotsky, all learning happens first on a social plane and then

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