Culture and the processes of virtual teaming for training

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Abstract

Virtual teamwork is a growing mode of operation within organizations through the increasing sophistication and accessibility of computer-mediated communication. The purpose of this paper was to develop a new conceptual framework and propositions to assist understanding of a new training phenomenon. The approach used was the integration of relevant, distinct, measures and development of arguments for the important role of cultural factors in virtual training. We argue that delivery of training through teamwork in virtual spaces is potentially effective, and individualist and collectivist orientations of team members are likely to be critical for the effectiveness, or otherwise, of such programs.

Keywords

collaborative learning, computer-mediated communication, cross-cultural projects, virtual training teams.

Introduction

A virtual team may be defined as a group of geographically dispersed employees who are connected using computer-mediated communication (CMC) to accomplish an organizational task (Chitowsky & Rojas 2003; Kirkman et al. 2004). CMC encompasses networked computing systems such as electronic mail, interactive messaging, bulletin boards, discussion groups and list servers, as well as conferencing (Gash 1999). CMC assists people, who traditionally would not be able to do so, to work in teams (Fadin-Watts 2007). This could influence organizations worldwide to move generally more and more to networking through CMC (Montano-Weiner 2001).

The number of virtual teams increased rapidly from the mid-1990s (Fadin & Gisvold 2003). There appears to be a positive relationship between the growth in the number of virtual teams and improvement in the quality and efficacy of CMC technologies (Zikria et al. 2004; Kankanhalli et al. 2007). For the purpose of this paper, we shall refer to the enactment of virtual teams as virtual teaming (VT).

VT, using CMC is likely to make sense for some aspects of advanced organizational training, particularly those that relate to organizational learning and knowledge management (Broxon & Burgess 2003). Interest in the use of CMC technologies for training has grown (Tao et al. 2006) to the point that in a recent survey (Broxon & Burgess 2003), 76% of professionals surveyed claimed to engage in Internet-related activities to support their professional learning.

It is important to understand that VT need not only be about mediating communication but also about sharing knowledge and experience (Tolker & Yew 2000). For example, VT projects have proved to be valuable learning experiences for both students and faculty in universities (Catlin-Watts et al. 2001). These characteristics potentially make VT a good fit with organizational learning and a valuable application for training.

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For the purpose of this paper, we define VTT to be a set of properties of a team whose members work collaboratively in a virtual environment to accomplish a task. When organizations apply VTT in order to develop a training program there is a new type of VTT that is called VTT, virtual team training (VTT). VTT is a specific type of VTT for which the "team" is learning and the "task" is the specific training experienced by the employee. VTT has three main components: virtuality, training and teamwork.

Developing an effective training program may be accompanied by fear and uncertainty (Salone & Chermayff, 1998; Gibb, 2002; Hill, 2004). Most doctors have been expressing about the effectiveness of traditional approaches to training (Nac, 2002; Hill, 2004). Organizations are faced with the task of selecting the most appropriate and relevant training models from the very large number that exists. The decision is critical because each training is likely to have different professional needs (Hann, 1999). Outcomes of training programs may be expected to differ according to gender (Heenan, 2006), country (Rodrigues, 2002), cultural organizational problems (Rodrigues, 1997) and work context (Bransky, 1999). There should be taken into account when designing training programs if they are to be effective (Bramley, 1999; Rodrigues, 2002). Otherwise, scarce resources could be wasted (Gibb, 2002) and the competitive advantage of organizations may be diminished (Nac, 2002; Corrid, 2001).

We argue that VTT may be more effective than some traditional training approaches whose effectiveness has been questioned (Gibb, 2002). One reason for this claim is the capacity of VTT to take account of cross-cultural differences. It has become clear that what constitutes effective training in one culture may not be effective in another (Rodrigues, 2002). In spite of the importance of culture, it seems only a few recent studies have explicitly concentrated on cultural factors (Hirtel, 2004). We argue that cultural differences must be taken into account if the application of VTT is to be effective. We consider collective-individualism to be one of the most salient cultural dimensions for VTT. This will be elaborated later.

Training by CMC

VTT, encompassing self-directed organizational learning, is likely to increase the effectiveness of training.

Replacing face-to-face communication with CMC is a major change to learning (Parteli & Fineman, 2006). Several experimental studies have suggested that training programs that are based on CMC can achieve typical training program objectives in organizations (e.g., Allan & Lewis, 2006; Besva, 2006; Watan-Buchanan, 2007). Findings involve a wide range of advantages for this training, including improved performance of learning (Glaeser & Getzian, 2005), more active and equal participation (Harvey et al., 2005), flexibility of access and ease of use (King & Morab, 2007), highly specific instruction (Doyle, 2005), more enjoyable learning (Fong, 2005), better adaptation (Amlak, 2005), provision of a low-threatening environment for individuals with special traits (such as shyness, low self-confidence, etc.) (Lewis, 2005; Parteli & Fineman, 2006), improvement of cultural understanding (Galin-Watts, 2007), and cost and time saving (Bal & Gundy, 1999). However, in spite of all these positive findings, it is clear that further research is required to investigate relationships between culture and CMC-based organizational learning in general, and VTT in particular.

Culture and VTT

Hofstede (1980, p. 21) defined culture as:

"The collective programming of the mind which distinguishes the members of one human group from another. Culture, in this sense, includes system of values and norms that are transmitted from one generation to another."

VTT has been described as a "culturally challenged" (Maltz, 2003, cited in Hertel et al., 2006, p. 473) phenomenon. Cultural differences are among some of the most important factors that should be taken into account when developing virtual teams (e.g., Camilleri & Green, 2007; Galin-Watts, 2007; Hirtel & Nielsen, 2007; Murchy & Scharf, 2007). Research findings show that culture can profoundly influence learning (King & Spencer, 2008). Logically, if culture is important for virtual teams and learning in organizations in general, it should be important for VTT in particular. Hofstede (1980, 2001) has identified and measured culture by referring to its dimensions. Cultural dimensions have important implications for organizational behavior. Hofstede (2001) described five cultural dimensions: individualism-collectivism, masculinity-
Collectivism–individualism

The present paper is specifically concerned with the collectivism–individualism dimension, arguably the most frequently used dimension in culture-oriented studies (Faulkner et al. 2005; Aschauer et al. 2006). It should be acknowledged that the punctualistic (i.e., approach, which encompasses the collectivism–individualism dimension, has been challenged in recent years (Bond & Smith 1996; Hong & Chu 2001) by not adequately taking account of the importance of situation-specific within-culture variation. Moreover, it is important not to fall into the trap of the ecological fallacy (Chua 2000) by engaging in cultural stereotyping of individuals within a society. Notwithstanding, people generally are more collectivistic in collective cultures and more individualistic in individualist cultures, and effective training should take account of this. Travers (1996, p. 403) defined collectivism as a social pattern in which

(...) personal goals are subordinated to the goals of a collective (e.g., family or tribe) and norms, duties and obligations regulate most social behaviour.

He defined individualism as a social pattern in which

(...) an individual is autonomous from collectives and personal goals are given priority over the goals of collectives.

It has been argued (Eagly & Chaiken 1993; Chua 2000) that culture is a multidimensional construct that exists both at the individual and societal levels. This paper is concerned with persons within societies whose collectivist or individualist orientations are consistent with their societies' cultural norms in the context of VTT. This seems to us the most practical approach for cross-cultural organization application. Moreover, while cross-cultural psychologists have tended to locate cultures on the collectivist–individualist continuum (Bond & Smith 1996; Hofstede 2001), it is arguably more practical and has been the practice (Bond & Smith 1996) to identify cultures that can be clearly differentiated according to collectivism–individualism. That is, it is likely to be more useful to compare cultures that are distal, rather than proximal, on the continuum. To this end, the discussion here is mainly in terms of collectivists and individualists while acknowledging that cultures range across the collectivist–individualist continuum.

Collectivists and individualists are fundamentally about social relations and have different implications for organizations (Morgan & Zeitz 2001). For example, individualist or collectivist orientation may affect cooperative behaviour (Helenstein & Gimborn 2001) where cooperation is required for learning (Pulakos 1998). Hartman found that in business contexts, individualists exhibited less cooperation in groups (Hartman 2001).

VTT potentially is an appropriate model for global networking of professionals beyond sociopolitical, organizational and cultural boundaries. For this to happen successfully, however, it must occur in ways that address cross-cultural differences. Researchers have found that people in individualist cultures generally show a higher rate of CMC acceptance than people in collective cultures (Lim et al. 2004). Furthermore, the quality of CMC is dependent on culture (Loo & Beil 2001). For example, individuals, who typically in less concerned with context, may not be willing to consider the cultural characteristics of the message units (Gudykunst et al. 1996).

Approach–avoidance behaviour

The behaviours of collectivists and individualists are likely to be important in VTT. The concept of approach–avoidance behaviour, which explains aspects of human behaviour by the tendency to approach and the tendency to avoid (Smith & Raugh 2008), is one frame for thinking about this. Approach–avoidance may relate to people's reactions to stimuli associated with a particular space, as influenced by their emotional condition (Izard 1997). Specifically, we content that approach–avoidance behaviours of trainees will be different in collectivist and individualist contexts. If a particular space has a cultural setting, then people from some cultures may be expected to approach it while people from other cultures may be expected to avoid it. For example, in a study involving US and Japanese workforces, Tsoukas (1998) found in-group and out-group differences in communication patterns in terms of the use of multiple types of networks. Arguably, because it incorporates CMC, one may generally expect individuals to exhibit more approach–avoidance behaviours in relation to VTT than collectivists (Gash 1999; Latheia &
Virtually training for training

Virtually training for training is the most achievable component because it is primarily technology-dependent (Pottier et al. 2006; Putten & Young 2001), and teamwork is the most important component because it plays an essential role for VIT (Gatlin-Watts et al. 2007). When a component is more culture-dependent, its operation is more difficult.

According to Fig. 1, components are all influenced by culture but to differing degrees. Virtually is certainly not culturally neutral, but arguably, the least influenced by culture. Teamwork is the most culture-dependent component because it involves interrelationships in a social setting. The strength of approach-avoidance behaviors in relation to virtually is likely to be more limited than for training. Virtually, training and teaming shift specific behaviors from team members. This is argued below based on each VTT component separately.

Virtually and collectivism/individualism

It is the virtually component that primarily distinguishes VTT from traditional face-to-face training. From a technical perspective, virtually is likely to play a key role in VTT. However, some researchers have asserted that technical barriers are not the most important issues for Internet access. Rather, the principal barrier relates to cultural perceptions about Internet possibilities and the nature of Internet activities (e.g., Haythornwaite & Nielsen 2007). Research findings have also identified relationships between cultural differences and differences in the perceptions of, and the ways individuals use, the Internet (e.g., Ehiel et al. 2007). For instance, Lipson and Volkmer (2007) found attitudinal and behavioral differences between US and Canadian technology users.

The use of communication technologies may result in various behaviors (Leach 2006; Pang 2007; Roy & Soni 2007). Collectivist societies appear to be more accepting of digital activities than collectivist ones (Ganchou 1999; Leibin & Viren 2004; Gatlin-Watts et al. 2007). In general, contextual cues in communication are important for collectivist so that they tend to disregard written information (Li et al. 2007). They tend to communicate more by face-to-face or by phone calls than individuals (Anderson et al. 2006) who prefer e-mails or online discussion boards (Puchner et al. 2005). Consequently, collectivists may not perceive that VTT meets their social needs. This leads to the proposition below.

<table>
<thead>
<tr>
<th>VTT Components</th>
<th>Training</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach-avoidance behaviors</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>Cultural-dependence</td>
<td>Least</td>
<td>Moderate</td>
</tr>
<tr>
<td>importance</td>
<td>Influenced low</td>
<td>Influenced more</td>
</tr>
</tbody>
</table>

Fig. 1 Qualities of virtual training training (VTT) components regarding culture dependence, achievement and importance.

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Proposition 1. In the specific context of VTT, individualist trainees will perceive VTT needs more than collectivist trainees.

Furthermore, it should be emphasized that high quality CMC technology may be expected to facilitate VTT interactions but not necessarily create teams (Von Krug 2008). Teamwork is a social activity, and CMC technologies cannot create a team. Indeed, technology is not the principal determinant factor for VTT to be effective. A team that is motivated well is likely to rise above the limitations of the technology (Fong 2005; Hambley et al. 2007). Based on their empirical research about interacting in virtual teams, contenido that richer communication media do not necessarily achieve higher task performance than less-rich media. In spite of the absence of face-to-face interactions in chat rooms, their participants, undergraduate students from a mid-sized Canadian university, did not show better team interactions during videoconferencing, a communication medium, which is rich visually, but sparsely than working in chat rooms.

Proposition 2. Effective VTT cannot be guaranteed by enriching CMC technologies.

Training and collectivism/individualism

Training, the second VTT component, is a culturally sensitive activity (Howe 1999). Learning in organizations is mainly a social activity through which is most often carried out by people in concert with others (Mavin & Gordon 2004). It follows that how people learn is affected by culture. Culture can not only affect the extent to which an individual values the development of personal skills and abilities but also can influence the way he or she crosses to meet his or her perceived personal needs, for example, a need for achievement or personal growth. In addition, cultural differences are likely to affect learning preferences. We propose that, in general, collectivist trainees from countries such as Japan and Thailand are likely to prefer a teacher-centered learning approach (Garvin 1997; Lobel et al. 2003). Individualist trainees from nations like Finland and the US, are likely to prefer a trainee-centered approach (Garvin 1997; Lobel et al. 2003). Team learning is generally more conducive to a trainee-centered orientation. In addition, different cultural characteristics may affect trainees’ encoding and decoding of information. While individualists tend to see each piece of information as independent of context and emphasize written information and codified forms, collectivists tend to look for contextual cues in information and place less emphasis on written information (Bhagat et al. 2002). This is also applied in Andriievsky et al. 2009). Accordingly, we consider the following propositions are achieved by VTT.

Self-directed learning

VTT may involve self-direction (Kirkman et al. 2001; Paul et al. 2004). Self-direction is generally valued for professional learning because it may influence goal achievement (Kramarski & Guntun 2002). It centers on defining individual preferences for learning and is emphasized by many researchers (e.g., Gibb 2002; King & Mureggi 2007).

VTT can create opportunities for self-directed learning. It can shift primary responsibility for the training to the trainee. There is some evidence that self-development is a very important goal for individuals (Birnbaum-Carmelli 2001), and employees in individualist societies generally tend to be responsible for their own development (Rodrigues et al. 2000). Again, being autonomous is consistent with being individualist (e.g., Wason 2006), and we are confronted with two roles: one as an employee, another as a trainee. Therefore, the following proposition is formulated.

Proposition 3. In the specific context of VTT, individualist trainees will engage in more self-directed learning than collectivist trainees.

Collaborative learning

Collaboration is one of the most referred to concepts in the virtual teams’ literature. Teamwork, whatever the context, requires collaboration (Peter & Mac 2003). CMC technologies are increasingly being used to support collaborative learning in groups (Stahl 2003). These technologies can increase the rate of interaction and cooperation among learners, especially among learners who speak one or more languages (e.g., Harvey et al. 2005; Burns 2006). Some scholars have identified the importance of collaboration for virtual team effectiveness (e.g., Seltzer 2006)

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The third component of learning, is about team members’ willingness to join with, and work with, others as a team. Culture directly affects teamwork (Gatlin-Watts et al. 2007) and is likely to be particularly influential in the initial stages of training. The collectivist and individualism dimension is likely to have many organizational consequences for team-based work (Workman 2001; Alavi & McCormick 2004).

Willingness to work in a team is unlikely to be the same for all tasks. Participating in training programs is an organizational task. The social-relatedness of learning can potentially increase organizational members’ willingness to work with others, as learning in a team and satisfying the team’s needs can give each member the opportunity to meet her or her social needs. Team-based training presents opportunities for effective learning according to many researchers (Yang & Chen 2005; Rasuli & Mazzer 2005; Wilson 2005).

Teamwork may actually be more important in virtual settings (Johnson et al. 2002; Chinowsky & Rojas 2003) than in face-to-face communication environments (Whitney 2006). The forming and working of many teams are related to team members’ collective orientation (Alavi & McCormick 2004). VTT can provide a sense of having community within which participants collaborate with others to negotiate and share meanings (Chamberlain & Vrasidas 2001 cited in Conel & Donaldson 2004). In addition, CMC technologies may enhance knowledge and skill sharing (Winter & McGhee 2005). Learner engagement with learning is likely to enrich cooperation and participation (Sims & Mulfinger 2002). And VTT is a beneficial way of cooperation (Haber & Jerventzi 2004) because it develops a context in which colleagues who are not located in the same place can work in a virtual team. Consequently, even people with an individualistic orientation may appreciate a team learning approach.

Osland (2004) has written about individualized teams, which consists of multiracial individuals who are eager to learn and who are flexible and keen to take on more responsibilities. A training approach that takes advantage of both learning in groups and self-directed learning is likely to be effective. This approach encompasses teams of autonomous, responsible individuals who are eager to learn, take the initiative, and help each other (Buchholtz & Vyskocil 2001; Osland 2004).

Rationally, people with individualistic orientations may work in a team (Bresnahan-Carnes 2001) because they understand that doing so may achieve individual goals, while the quality of participation of a person with a collectivist orientation is likely to be affected by whether the team is perceived as an in-group. Therefore, the following proposition can be proposed:

Proposition 5: The closer the team goals in VTT are to individualist team members’ personal goals, the more they will collaborate in VTT.

Conclusion

The development and working of VTT may be expected to vary under different cultural conditions. This paper focused on VTT as an approach that is able to combine collaborative learning and self-directed learning. We have argued that the success or otherwise of VTT will depend on some extent on cultural orientation, particularly focusing on collectivism-individualism. It is also argued that VTT can be an effective training approach because of its potential to respond to both cross-cultural and individual differences. The first requirement for VTT to be effective is that members should perceive a need for training. Of the many training models that could meet this need, team-based learning is a possibility. We have argued that collectivism-individualism is a cultural dimension that will influence this selection. We described a model of VTT with three essential components: virtually, learning and training. Evidence sup-
greed that individualism may find CMK a reliable, 
operating mean to communicate with people. CMK 
helps trainers to overcome physical, social, temporal 
and psychological boundaries, inverted one-to-one, 
one-to-many and many-to-many interactions. It has 
been argued that an individualist orientation generally 
fits more comfortably with virtuality than a colletivist 
orientation.

VTT is appropriate for self-directed collaborative 
learning. In addition, it presents training that is sensitive 
to individual needs assessment, presents a conceit for 
teams comprising members with various cultural back-
gounds, and potentially can have a focus on sociocultural 
and technical aspects of training. Moreover, 
these qualities are sensitive to the cultural context 
in which VTT is developed.

VTT may be more challenging than other sorts of 
teamwork. Collectivists may be expected to be more 
embracing of teamwork in general, but there may be 
subtle differences in different contexts. On the one 
hand, collectivists prefer to deal with in-groups which 
are usually relatively few in number. On the other hand, 
individualists tend to be members of many fluid groups. 
They feel autonomous and are less likely to subordinate 
their goals to the goals of groups. These lead us to con-
clude that social behaviours of individualists in team 
members are more relevant with training for virtual 
learning.

There are a number of educational implications that 
can be drawn from the theoretical arguments presented. 
The phenomenon of globalization has resulted in supranational 
organisations operating in multiple cultural contexts, and their educational and training programs 
should reflect this. While acknowledging that there is a 
multiplicity of cultural variables that may be 
relevant, collectivism-individualism is a dimension that 
is likely to be especially salient for the effectiveness of 
teams, and hence, VTT. First, organizations should not 
only focus on the quality of the technology by which 
VTT is delivered but also on the quality of the social 
interactions of team members. Second, organizations 
should take account of the majority cultural orientation 
when implementing VTT. However, we caution again 
against cultural stereotyping. In some circumstances, 
collectivists-individuals of employees may need to be 
assessed sensitively by means of a psychometrically 
appropriate instrument. Third, while the idea that 
teaming fits comfortably within an individualist context 
appears counter-intuitive, the way in which teaming is 
encoded in VTT may actually suit such a context, pro-
vided the goals of the trainer and the virtual team are 
aligned. Hence, VTT should be self-directed in the 
individualist context, with parameters set by the or-
gerization. Fourth, to encourage collaboration, VTT 
should be independent. That is, however, is likely to be 
more important in an individualist than in a collectivist 
context. Fifth, VTT delivered in a collectivist context 
should be structured, with an appointed team leader. 
Sixth, VTT is a relatively new phenomenon, and new 
propositions should be formed to provide a frame-
work for future research. Finally, by gaining a better understanding of VTT processes, researches may 
be able, systematically, to investigate within-context 
(online) differences in the VTT context and further 
inform the effectiveness of VTT.

References
supported by digital means in a knowledge-intensive 
company. In E-Training Practices for Professional Organ-
sations (eds P. Nixonson, J.R. Thompson; M. Reesherk 
Boston, MA.
of the effectiveness of the learning organization model 
in school contexts. International Journal of Educational 
vehicles for workforce development: a case study. Journal of 
Nicolovici A. Marea M. L. W. Wodling T. & Stenhamra 
R. (2006) Cultural influences on knowledge sharing 
through online communities of practice. Journal of Knowl-
Dal B. & Grundy J (1999) Virtual learning in the automot-
ive supply industry. Human Resource Management 38: 
191–195.
communication improve team processes and decision 
366.
Staufenbiel-Curran D. (2001) Between individualism and 
collectivism: the case of a middle class neighborhood in 
Israel. International Journal of Sociology and Social Policy 


