Knowledge sharing: collaborative teamwork

Due to the advances in communication and information technologies, experts from anywhere in the world can collaborate as a team. This type of collaboration is currently in high demand. However, recent studies on distributed team collaboration have shown that working in these settings presents a challenge to the collaborative construction of new knowledge.

The prerequisites for creating new knowledge are the same as in face-to-face settings. One prerequisite for creating new knowledge is that to communicate and understand what others are saying, distributed team members must make many assumptions about what other team members do and do not know.

In addition to evaluation of others' knowledge, to reach the common goals of the team, team members must also evaluate the knowledge that is already shared and find out which topics require further development in order to achieve conclusions in their shared task. However, in distributed team settings it is challenging to evaluate what is shared knowledge.

Within studies on cognitive goals and self-regulation, arguments have been presented about how individuals' strivings to evaluate others' and shared understandings may depend upon one's motivational state and cognitive capabilities, such as assessment tendency, and therefore there might be differences in individuals' evaluations of others' and shared knowledge in teamwork as well.

Shared knowledge

Several studies have been conducted from different perspectives on collaborative teamwork that have demonstrated that a group will benefit if individual team members have similar knowledge representations considering their shared task. However, team effectiveness may not only depend on the overlap of the team members' knowledge representations. Instead, the team members should constantly evaluate by themselves what knowledge is shared between them in order to act effectively in a team or in a learning group. It has been shown that in successful collaboration one has to draw conclusions about the common frame of reference, within which communication and work activities take place.

In communication, the team members come to conclusions about their common frame of reference through a number of mechanisms. For instance, they listen to what they themselves have just said, or they rely on the direct feedback received from the individuals with whom they collaborate.

However, when people explain something to the people, they tend to exaggerate the commonality of their own attitudes, feelings, and behaviour, probably for a multitude of cognitive and motivational reasons. They may assume that the same knowledge is shared by themselves and others and their representations are similar, which may of course hamper a team's collaborative work, because this knowledge about the task is not truly shared.

Drawing conclusions about others' perspectives and shared knowledge during collaborative teamwork is even more difficult when a team of experts is expected to work in a virtual environment. One study showed that when communication in a collaborative learning situation was mediated with a synchronous computer environment, the relation between shared and unshared knowledge was less than 1:5. Even though this study did not focus on the distributed team members' own explanations of their shared knowledge, the study indicates that during distributed teamwork reciprocal evaluation of knowledge which is shared is challenging for members of a distributed team.

Personal assessment
In social psychological studies on self-regulation and cognitive goals it has been noted that individuals differ in their disposition to evaluate other individuals' knowledge, and they do not compare others' views to their own views in a similar way. The concept of “assessment tendency” could be of importance when studying differences in distributed team members' reciprocal attempts to evaluate shared knowledge during collaborative teamwork.

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The theory of assessment tendency describes how alert an individual is to evaluate alternative goals or means for deciding those goals that are best for pursuing and appraising performance. Individuals with high assessment tendency prefer strategies such as measuring or explaining something through comparing one thing to another more than low assessors.

In collaborative learning it is important that participants acknowledge and elaborate on other's ideas which are presented in discussions to reach new, shared knowledge representations. This elaboration demands an ability to take into account others' points and assess whether we agree or not about the particular topic. The question of how an individual's personal assessment tendency is related to situated explanations of shared knowledge in a context of collaborative teamwork has not been given much attention in studies of collaborative learning and working.

Collaborative teamwork

In order to construct knowledge collaboratively individuals have to evaluate what the other participants are thinking and what knowledge they share. Earlier studies have showed that individuals use evaluation strategies such as perspective taking and assessment for understanding other individuals' thinking in social learning and work contexts. In addition, there are dispositional factors that could affect the use of these evaluation strategies, such as assessment tendency. However, in research on social cognition and communication it has been pointed out that evaluations about the knowledge which is already shared are also needed to construct new knowledge together.

Individuals' own motivational and cognitive capacities are also related to their interpersonal evaluations of shared understandings. Therefore, more attention should be paid to the question of how distributed team members can be stimulated to reciprocally share and evaluate their individual perspectives, since each of them may not be highly predisposed to take others' knowledge into account.

Also, from a workplace learning point-of-view, individuals decide how they participate in collaborative activities and what they construct from their experiences, and describing only their participation in work practices may provide an insufficient understanding of how new knowledge is constructed in workplace learning situations. An individual's role as an active knowledge constructor and his or her predispositions also matter in workplace learning contexts.

An increasing amount of knowledge work is done today in multi-site organizations with distributed workers. There are various kinds of groupware and www-based workspaces that are used daily in these organizations which allow various ways of working with documents and communicating. When designing work settings in which new knowledge is expected to be constructed collaboratively, there is a need to consider the structure or script the team will follow in order to find a solution to their work task and then consider what technology might be supportive of those processes.

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