A team is not only made up of a group of people, but also the mental models that guide each team member’s behaviors. Along with these mental models, people bring their stories that illustrate their mental models by describing past experiences. Many of the obstacles a team encounters are due to unclear goals, roles and processes; a shared mental model around teamwork can guide them past these obstacles.

A team mental model is defined as an organized understanding or mental representation of knowledge that is shared by team members (Mathieu et al, 2005). This team mental model encompasses a tacit understanding of how a particular team will work together to achieve its goals. By taking steps to build a set of shared beliefs around teamwork, team members will be better equipped to anticipate and respond to the needs of their team members (Mathieu et al, 200).

Can sharing stories of successful teamwork accelerate the development of a team mental model of teamwork? This study looked at this question by designing a story-telling intervention and measuring the impact of this intervention by comparing pre- and post-survey questions regarding individuals’ mental models of teamwork.

Storytelling in Organizations

Stories are a social form of human interaction and, when most effective, engage the listeners’ imaginations. More recently, researchers and practitioners have looked at storytelling in organizations. There are many anecdotal examples of storytelling used for knowledge sharing, motivating employees, communicating vision and sparking action (e.g., Armstrong, 1992; Clark, 2004; Denning, 2001; Silverman, 2007).

Storytelling is a natural human activity. Sharing stories among team members on a particular topic like effective teamwork can create a new framework for the team to reference as a team mental model. Bettenhausen (1991) described the development of “shared understanding” as an essential group process. Facilitating a structured activity involving storytelling allows a team to create a shared understanding that guides the behavior of team members as they work together.

Storytelling researchers such as Boje (1991) and Fisher (1987) outline the emotional effect that stories have on information processes. Boje describes storytelling as “…the preferred sense-making currency of human relationships…” (p.106). In this way, stories deliver a context for new facts and provide connections. They help people encode information and establish patterns that are recognizable and can be transferred from one situation to the next. By providing a conceptual framework for the brain to organize and manage information, stories are an external manifestation of these internal frameworks. When listening to a story, individual listeners can imagine themselves in the place of the storyteller. By involving emotion, the listener not only learns new information, but becomes attached in an emotional way that can be more motivating than straight data. As Boyce states, “Stories speak to purpose, motivation, sense of team and success” (1996:4).

Team Model Alignment and Performance

There is empirical research demonstrating that team mental model similarity among team members and individual schema agreement positively impacts team performance. Mathieu, et al (2000) defined a shared mental model “as an organized understanding or mental representation that is shared by team members” (p.38). Their study looked at multiple models including task/technology, response routines and teamwork. The data showed a significant positive relationship between similarity of mental models among team members and team performance.

Peter Senge (1990) also talks about mental model alignment and the effect it has on team productivity. Increasing the alignment of individuals’ mental models allows a commonality of direction to emerge. If everyone is working from the same internal map, actions are guided by a collective perception. In looking at mental models and teamwork, Senge proposes an “opening up” type of consensus that seeks a picture larger than any one person’s point of view. “Each person’s view is a unique perspective on a larger reality. If I can ‘look out’ through your view and you through mine, we will each see something we might not have seen alone” (Senge, 1990:231). Sharing personal stories among team members is one way to look out through others’ views.

While there is much anecdotal writing about the impact of storytelling within organizations, there is little empirical evidence
regarding the effect of stories on mental models. However, while not specifically referring to mental models, Stephen Denning does discuss using stories to foster collaboration (Denning, 2006). His advice for leaders is to tell a story that recounts a situation that will prompt listeners to share their own stories on the topic. This leads to a swapping of stories and a narrative chain reaction. Listening to each others’ stories allows team members to explicitly examine each others’ mental models and observe instances of misalignment.

Experiment Design

To test whether or not a storytelling intervention could help accelerate the formation of a team mental model, an experiment was designed that consisted of a pre-intervention survey, a group workshop designed around storytelling, and a post-intervention survey. A total of eleven teams comprised of fifty-eight students participated in the study. Thirty-one graduate students and twenty-seven undergraduate students were formed into teams at the beginning of the academic quarter. All groups responded to both the pre- and post-intervention surveys. The five graduate student teams each met with a facilitator for two hours. Three of these teams were guided through storytelling exercises and the other two teams, acting as control groups, had unstructured discussions. Of the six undergraduate teams, three met with the facilitator for the storytelling exercises and three socialized as a group without the facilitator.

Storytelling Workshop

The groups that received the intervention met for an hour and a half and followed the agenda below:

10 minutes: Introductions and instructions for first exercise. Participants will be asked to work in pairs and tell their partner a story about a successful team on which they worked.

10 minutes: Pairs will tell their stories to each other.
10 minutes: Pairs will be switched and each person will tell their new partner the story they previously heard as if it was their own in the first person.
10 minutes: Facilitator will ask participants to share what they found most interesting in each other’s stories.
15 minutes: Facilitator will ask group what common themes and/or metaphors they hear among the stories.
15 minutes: Facilitator will ask the team “what is your story?” and lead collaborative storytelling exercise.

This storytelling exercise originated in a theater workshop (original source unknown) and asks participants to share successful teamwork experiences with one other person in the form of a story that includes descriptive details of the environment, the situation and the reactions of the team. In the next step, the pairs returned to the group and each person told his or her partner’s story in the first person as if it were their own. This gave each participant a chance to “try on” the other’s story see how it fits. Following this exercise, the group pulled out the common themes they heard regarding successful teamwork and then moved to thinking about the story of this specific team as well as the roles each individual will play throughout the life of the team.

Results

In analyzing the variance among team member survey responses before and after the storytelling workshop, no significant impact was statistically apparent. Anecdotally, however, the workshops had an impact on other team aspects; specifically trust and cohesion. The measurement aspect of this design could be improved to more accurately measure mental model alignment as well as apply measurement to team trust and cohesion. Future studies also should look at trust and cohesion as antecedents to a shared team mental model, connecting the link from storytelling to team mental model through these two team factors.

Practical Implications

Although the data in this particular study did not support the hypothesis that storytelling can facilitate the formation of a team mental model, this study did reveal practical implications for the design and use of storytelling in organizations and in team situations.

Storytelling Intervention Design

In designing and facilitating the intervention, there were key lessons learned for using this exercise in the future. Asking participants to come up with and share a story off the top of their heads can be intimidating. The methodology for the intervention in this
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The study had been used before, but not in a formal setting. There are improvements that can be made to make the participants feel more at ease about personal storytelling.

The second part of the intervention, the discussion of the team’s future story, also could have used more structure to help participants feel more comfortable thinking of creative possibilities. There was a perceived task bias, especially among the graduate professional participants, that inhibited creativity. Cynthia Phoel (2006) suggests that the audience (in this case the team members) be invited to dream. Using phrases like “What if…?” invites participants to ignite their imagination. While Phoel emphasizes the leaders’ role, these are also good tips for group facilitation such as the one used in this study.

Benefits of Storytelling Interventions
The emotional connection created when listening to and sharing stories is intangible and difficult to quantify. While this study focused on aligning individual mental models into a team mental model of teamwork, it could have been expanded to measure the impact of the storytelling experience on other aspects of teamwork; namely, trust and cohesion. Anecdotally, there was feedback that the time spent in the facilitated exercise was valuable for bringing the team together and getting started in a formal way that focused on the team itself rather than the task. There are (at least) two ways this could be looked at in more detail: 1) Are trust and cohesion significant antecedents to a shared team mental model? And, 2) Can storytelling measurably influence the trust and cohesion among the group? In this particular study, more than one team came out of the storytelling exercise with a catch-phrase that now had specific meaning and worked as short-hand for a team concept.

Team-building has been used by practitioners to bring a team closer together, to improve personal relationships, and enhance team productivity. The literature on teams discusses opportunities like training together as it pertains to the team task to develop a team mental model (Klimoski and Mohammed, 1994; Thompson, 2003), or a transactional memory system (Argote 1999). A team mental model can impact how effectively a team performs. Openly sharing stories about beliefs and attitudes around teamwork may bring a team closer to a shared understanding, but it may be that only the experience of working as a team over time can truly create a team mental model.

References


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About This Research
This article is the result of Alyssa’s Capstone Research, conducted in 2008. Alyssa’s faculty advisor for this Capstone project was Kimberly Scott, Phd., Assistant Professor and Director of Northwestern’s MSLOC Program.

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