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GROUP SMARTS

Elevate collective intelligence through communication, norms, and diversity

By Valerie von Frank

Savvy leaders gather the best and the brightest to make decisions. Why, then, are decisions not always the best?

Some teams may not be operating with maximum intelligence. Scientific theory is beginning to explain what makes teams tick, and it seems that teams, too, have an intelligence of their own that is independent of the individual intelligence of the members. In other words, adding up the talent of each individual member doesn't necessarily total the team's ability to perform.

"We thought individual intelligence (of each group member) would play a larger role," said Anita Woolley, assistant professor of organizational behavior and theory at Carnegie Mellon University. "We're finding that has a very low relationship to how the team will do as a whole."

SOME GROUPS ARE SMARTER THAN OTHERS

Woolley and her colleagues wanted to find out whether collective intelligence existed. If so, is it measurable? Is it stable over time? Is it a predictor of a group's performance? It is.

The idea of collective intelligence "has been swirling around in different guises for quite a while," Woolley said, from studies of animal behavior to more recent studies of systems in computer science.

Nicholas Christakis and James Fowler described how

Continued on p. 4

Continued from p. 1

humans are social beings with group intelligence. "Social networks," they wrote, "can manifest a kind of intelligence that augments or complements individual intelligence, the way an ant colony is 'intelligent' even though individual ants are not, or the way flocks of birds determine where to fly by combining the desires of each bird" (2009, p. 26).

So what can research tell us about raising a team's intelligence? Effective teams are not made up of the organization's rock stars. To form the best teams, create groups with good communicators, enhance those skills, and make sure members have a variety of backgrounds, according to experts.

But Woolley and her colleagues went a step further. A group's ability to perform well on a task can be measured, they found. The researchers discovered that they could predict how well a group would be able to perform a task based on measured performance of prior tasks such as brainstorming, decision making, and visual puzzles (Woolley et al., 2010). The group's collective ability on one set of tasks predicts how well members perform another task.

Woolley and colleague's research also found that group member satisfaction, motivation, and group cohesion don't necessarily contribute to high-performing groups (Woolley et al., 2010).

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HOW DO YOU RAISE THE GROUP'S IQ?

Improving the group's ability to communicate will raise its collective intelligence, Woolley said. Woolley found that teams formed with more women than men had higher collective intelligence, but that group interaction tended to be different in those groups. She said participation was more equal.

"On average, women tend to score higher than men on skills related to social perceptiveness," she said, but only because understanding what others are thinking or feeling is important to group dynamics and creating a smarter group.

Cornell University biologist Thomas Seeley famously studies honeybees' decision making as scouts bring information back to the colony to make decisions about where to locate a new hive. The scouts make their case in a persuasive dance, and as quorums form and more bees become convinced, they begin to cluster until the whole group comes together in a democratic decision on a location. Woolley points out that the hive makes a suboptimal decision when the signal stops traveling across the honeybees if just one bee breaks the communication trail.

"Fundamental to collective intelligence is the ability of the group to make the best use of the information that can be brought to bear on their work from all members of the group and so communication is fundamental to that," Woolley said.

"Two people can be saying the same thing, but if one person is communicating more effectively, it's actually going to have more of a benefit for the group," she continued. "There are some groups where people are saying smart things, but it's not finding its way into the group's work."

Creating a collaborative team begins with having clear goals and expectations, setting norms, understanding different roles group members can play, clarifying the group's decision making authority, and creating focused agendas, writes Robert Garmston in *Unlocking Group Potential to Improve Schools* (Corwin Press, 2012).

According to Garmston (2012, p. 71), higher-performing groups are created by:

- Ensuring that group members carefully consider information from one another as potentially useful.
- Allowing equal input from every member.
- Using dialogue — a free flow of ideas that build on one another's thoughts.
- Allowing constructive critiques that offer concrete ideas for an improvement of a process or idea, never about or judging an individual.

The psychological safety in that last point is essential to high-performing teams, researchers say, and something that leaders have to work to create.

Researchers studying how cardiac surgical teams learned to use new technology quickly evaluated 16 teams that adopted the new practices quickly and effectively (Edmondson, Bohmer, & Pisano, 2004). Given the hierarchy that exists in the operating room, how did the surgeons create a sense of team that allowed other surgical staff to feel psychologically safe in potentially pointing out mistakes? According to the Harvard researchers, the surgeon/leaders had to repeatedly tell the team members that they had been selected not only for their skills but because they could provide valuable insights.

The researchers found that high-level management support, the status of the surgeon in charge, and formal reflections were not essential. (Reflecting during the process of learning *was* helpful.)

SELECTING A SMART TEAM

Interestingly, the surgeons pointed out to the team members that they had been selected for their ability to

Continued on p. 5

Continued from p. 4

contribute insights.

Research on what contributes to a smart group shows that the best group diversity is not based on intelligence, racial, ethnic or cultural diversity, but on differences in backgrounds and life experiences (Page, 2007). Selecting all members of middle class backgrounds, for example, although of different races, still may create a similar perspective from those gathered and they may bring a similar set of ideas to the table. When group members have different sets of mental tools, the group decision making process is less likely to get mired and more likely to result in a different way of looking at the problem.

When group members are too similar, the group often is *not* high-performing, according to Garmston, because it is susceptible to groupthink, "that inability to hear different voices and perspectives (that) is the downfall of intelligent decision making" (2012).

Page outlined different dimensions of diversity:

- Cognitive differences in perspectives (different ways of representing situations and problems);
- Interpretation (putting things into different categories and classifications; for example, one individual might be a principal, a parent, a coach);
- Heuristics (different ways of generating solutions);
- Ways of approaching problems (analyzing a situation and looking for themes).

(in Garmston with von Frank, 2012, p. 73)

"A study from Northwestern University found that including a mix of veterans and newcomers in the group led to greater creativity and better solutions," write Garmston and von Frank (2012). "A second factor in success was including a few experienced people who had never worked with one another before." Woolley said it is important that leaders train groups to be aware of how subtle and even unconscious power and status issues can create unequal participation and take steps to compensate for that unevenness.

Learning Forward BELIEF

Successful leaders create and sustain a culture of learning.

Knowing that groups have an intelligence factor, just as individuals do, is the first step in beginning to understand that they can be made smarter—with work. Leaders can make sure groups are developing group intelligence, just as they look to individual professional learning.

"A group's collective intelligence determines the group's ability to engage in complex cognitive work that results in improved outcomes," write Garmston and von Frank (2012). "Groups, particularly groups that develop their collective intelligence, are a tremendous force both for change at the individual level and in the ability to affect organizational issues. Developing group intelligence does not happen by accident. It is deliberate, planned and constructed. As a group becomes smarter, the individuals within the group also gain wisdom."

To facilitate effective organizational teams:

- Make sure one person is not doing all the talking.
- Create a psychologically safe environment in which people feel comfortable admitting mistakes.
- Leave power and status at the door.
- Actively teach group members effective communication skills.

— Anita Woolley, assistant professor of organizational behavior and theory at Carnegie Mellon University

REFERENCES

Christakis, N.A. & Fowler, J.H. (2009). *Connected: The surprising power of our social networks and how they shape our lives.* New York: Little Brown.

Edmondson, A., Bohmer, R., & Pisano, G. (2004). Speeding up team learning. *Harvard Business Review on teams that succeed.* Boston, MA: Harvard Business School Publishing Corp.

Garmston, R.J. & von Frank, V. (2012). Working together, we can produce genius. *Finding Common Ground: Education Week blog.* Available at http://blogs.edweek.org/edweek/finding_common_ground/2013/02/working_together_we_can_produce_genius.html

Garmston, R.J. with von Frank, V. (2012). *Unlocking group potential to improve schools.* Thousand Oaks, CA: Corwin Press.

Page, S. (2007). *The difference: How the power of diversity creates better groups, firms, schools, and societies.* Princeton, NJ: Princeton University Press.

Woolley, A. W., Chabris, C.F, Pentland, A., Hashmi, M., & Malone, T.W. (2010). Evidence for a collective intelligence factor in the performance of human groups. *Science, 330*(6004), 686-688.

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