

Connecting the Dots Between Team Science, Leadership Education, and the Interdisciplinary Research Pipeline

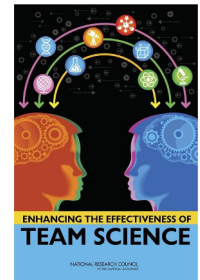
A Roundtable Discussion with the International Leadership Association



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Changing Research Environment

"Over the past six decades, as scientific and social challenges have become more complex and scientific knowledge and methods have advanced, scientists have increasingly joined with colleagues in collaborative research referred to as team science. **Today 90 percent of all science and engineering publications are authored by two or more individuals.** The size of authoring teams has expanded as individual scientists, funders, and universities have sought to investigate multifaceted problems by engaging more individuals. Most articles are now written by 6 to 10 individuals from more than one institution."
(National Research Council, 2015, p. 1)



"You see people who think it's not much more than stapling a bunch of CVs to the back of a proposal. They don't realize that it takes time to build a relationship."

(Excerpt from *Nature* article by Heidi Ledford, 2015)

The Diversity Paradox

"Friction is essential for arriving at the best solutions."
(NeuroLeadership Institute, 2018)



TED
"Diverse groups are more creative. They feel more uncomfortable, and that discomfort motivates them to do extra preparation and share new information."
WorkLife / ADAM GRANT

What Makes Teams Work?

(September, 2018, *Monitor on Psychology*)

ABCs of teamwork: the attitudes, behaviors and cognitive states that collectively influence whether a team achieves its goals.



"How well people work together may be more important than how well they work on the tasks."

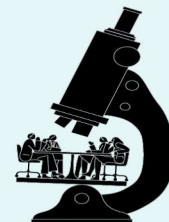
- Gerald F. Goodwin, U.S. Army Research Institute for the Behavioral and Social Sciences

What Google Learned from Its Quest to Build the Perfect Team

(Duhigg, 2016)

nyt mag

"If a company wants to outstrip its competitors, it needs to influence not only how people work but also how they work together."



More at: [nytimes.com/magazine](https://www.nytimes.com/magazine)
Illustration by James Graham

The five keys to a successful Google team
(Rozovsky, 2015)

Who is on a team matters less than how the team members interact, structure their work, and view their contributions.

- 1 **Psychological Safety**
Team members feel safe to take risks and be vulnerable in front of each other.
- 2 **Dependability**
Team members get things done on time and meet Google's high bar for excellence.
- 3 **Structure & Clarity**
Team members have clear roles, plans, and goals.
- 4 **Meaning**
Work is personally important to team members.
- 5 **Impact**
Team members trust their work matters and creates change.

re:Work

Which method is best for teamwork training?

Most effective

Least effective

- Simulations**
Teams try out and put into practice teamwork behaviors
- Team Reviews**
Teams monitor the quality of their teamwork during in-situ reviews
- Workshops**
Teams take part in various interactive group activities
- Didactical Education**
Teams receive lectures in a classroom-type setting

SCIENCE WORK Based on McEwan D., Ruissen G. R., Eye M.A., Zumbo B. D. & Beauchamp M. R., 2017.

Amplifier Effect of Coursework & Training

at 211° water is just hot
At 212° water BOILS
boiling water creates steam
STEAM can POWER a TRAIN
ONE EXTRA DEGREE
is the difference from good to great

“Although it’s seen as contributing just 10% to a leader’s development, well-designed coursework and training have an amplifier effect — clarifying, supporting, and boosting the other 90% of your learning.”

- Leading Effectively staff @ Center for Creative Leadership

ALCE 5224: Team Science, Cooperation, and Interdisciplinary Work

Questions for Discussion

- Should higher education programs in leadership studies include the Science of Team Science as part of the curriculum? If so, how?
- How might the Science of Team Science inform leadership research? Where are the opportunities?
- How can leadership theories, frameworks, models, and practices help to inform the Science of Team Science?
- Where can leadership educators engage and support science teams in ways that have been previously overlooked?
- How might this type of professional development benefit from online and in-person delivery?
- What might a cooperative relationship look like to help build interdisciplinary research pipelines? (Who are the stakeholders?)