# Preparing Teams for Team Science
*Integrating Interdisciplinarity into Professional Development*

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College of
**BEHAVIORAL, SOCIAL
AND HEALTH SCIENCES**

# Overview

- My Background

- The *"Who? What? Where? When? How?"* of Professional Development for Interdisciplinary Collaboration

- Current/Future Needs & Gaps

# WHO NEEDS INTERDISCIPLINARY DEVELOPMENT?

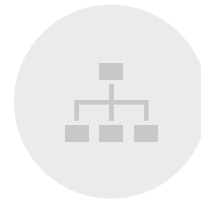Undergraduate & Graduate Students

Postdoctoral Fellows

Early, Mid, Late Career Faculty

Practitioners

Research Support (Pre & Post Award)

Administrators & Leadership

# WHAT ARE THE DEVELOPMENTAL NEEDS OF INTERDISCIPLINARY COLLABORATORS?

- Need to introduce **core concepts** of interdisciplinary collaboration and the science of team science
  - Especially important in terms of developing transportable skills
  - Multiple mentors, network opportunities with other disciplines

- Need for interdisciplinary **opportunities to develop and improve** reflective practices, adaptive capabilities, & boundary spanning skills
  - Grand challenges do not have a "one size fits all" solution, neither does collaboration
  - Need a variety of experiences that can strengthen different collaboration skills (e.g., perspective taking, communication, curiosity)
  - For large scale collaboration (i.e., multiteam systems), need to develop boundary spanning skills

- Need for **scaffolded, stretch assignments** to practice and develop skills in a safe environment ("opportunities to excel")
  - Requires psychological safety fostered by leaders, coaches, or mentors
  - Constructive, timely feedback is critical

# WHAT ARE USEFUL KNOWLEDGE, SKILLS, & ABILITIES FOR INTERDISCIPLINARY COLLABORATORS?

Flexibility, Adaptability, Creativity, & Tolerance for Ambiguity

Communication, listening, and perspective taking skills

Curiosity about, and willingness to learn from, other disciplines

An open mind to ideas, methods from other disciplines and areas of expertise

Ability and interest in bridging the gap between theory and practice

*(Lyall et al., 2011)*

# WHERE DO YOU DEVELOP, IMPROVE, & MAINTAIN INTERDISCIPLINARY COLLABORATION?

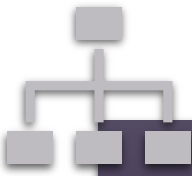## Build Individual Expertise

- Develop individual team members' capabilities for working in <u>any</u> team

- Provide opportunities for practice, feedback
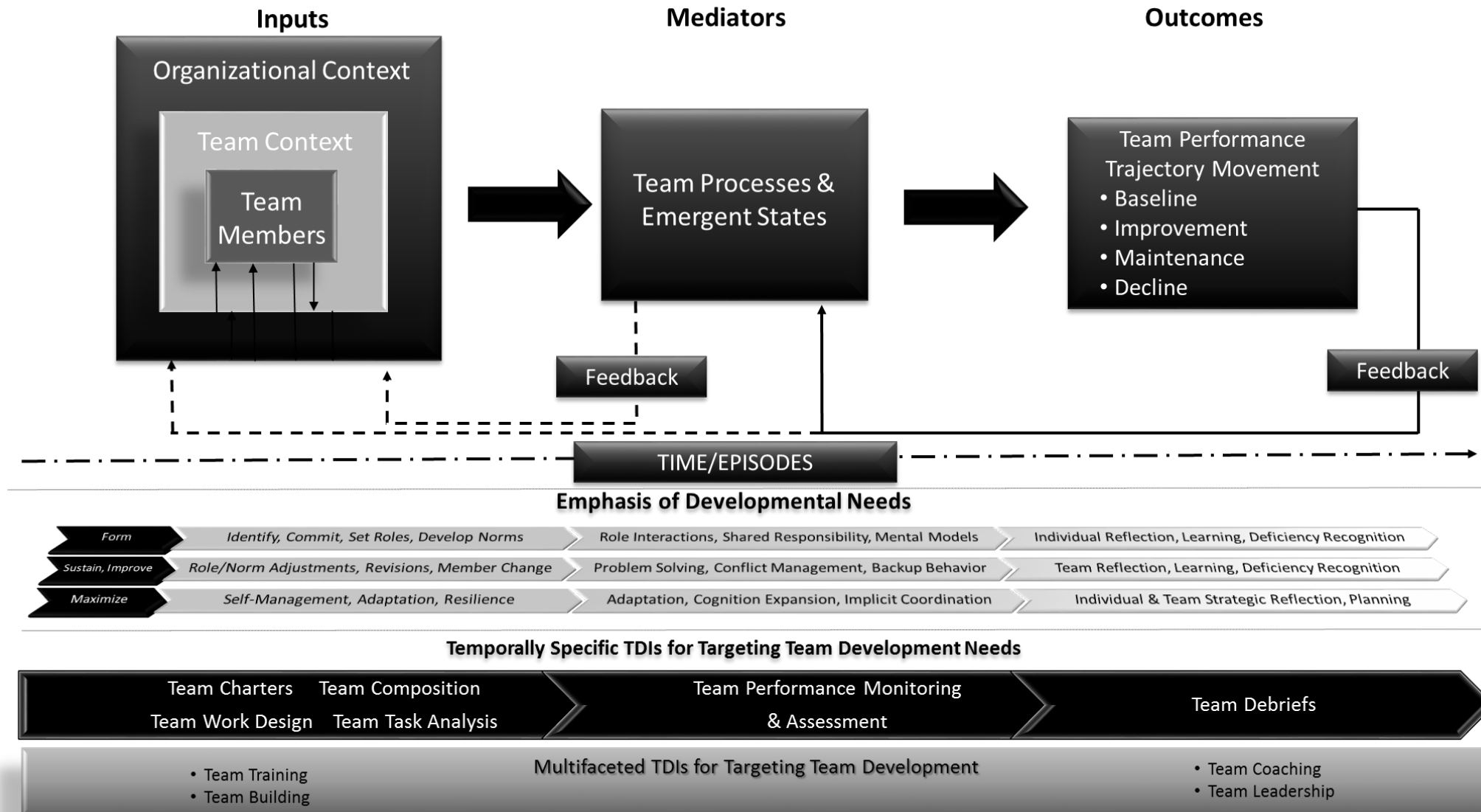
## Focus on Teams Holistically

- Improve team interactions and teamwork processes for <u>specific</u> teams

- Can be new or existing teams

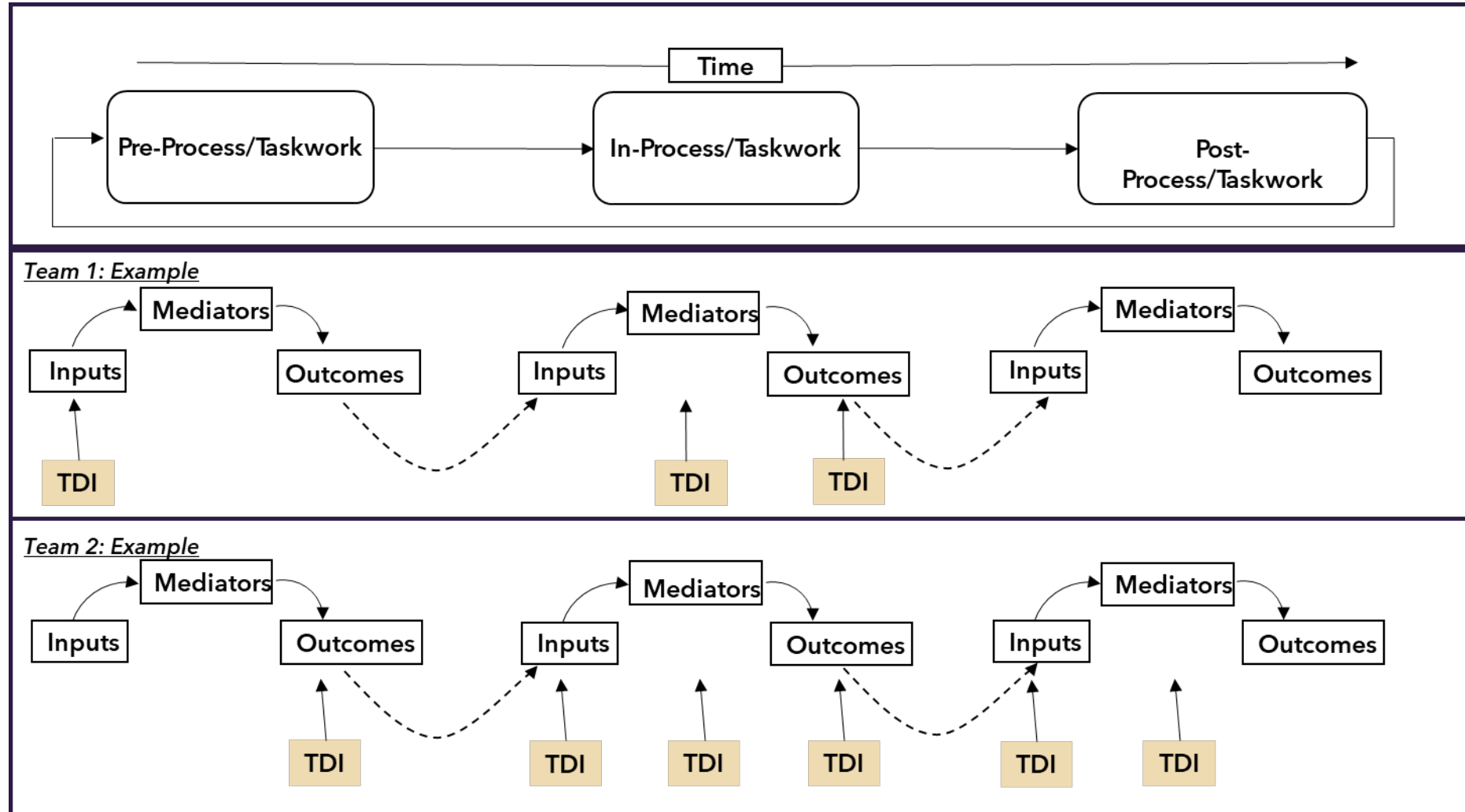## Redesign/Change the Work (Leadership/Administration)

- Ensure a team is needed for the task & verify roles

- Modify the team's tasks, workflow, work design, rewards

# WHEN DO YOU DEVELOP INTERDISCIPLINARY COLLABORATION SKILLS?



Shuffler, et al. (2018)

# HOW TO DEVELOP? EXEMPLAR PROFESSIONAL DEVELOPMENT INTERVENTIONS

- Team Training Workshops for Individuals or Teams (e.g., Conflict Management)
- "No Dumb Ideas": Problem-Based Interdisciplinary Seminar, Workshop
- Undergraduate Research Teams (Grad student or Postdocs as Co-leads)
- Interdisciplinary Conference & Workshops (INGRoup, INSciTS)
- Formal Coursework on Teamwork, Teaming (Grad & Undergrad)
- Co-Mentoring, Multiple Mentorship Models (Summer Lab Exchange)
- Annual or Semester Interdisciplinary Goal Setting & Assessments

# CURRENT/FUTURE GAPS & NEEDS

- Challenges with incorporating team science research & evaluation as a ***meaningful*** focal area of large-scale interdisciplinary research projects

- Role of ***technology*** (as a tool or teammate) & associated skill development requirements

- Clarity around the professional development needs for working in large interdisciplinary ***multiteam systems***

- Need to better understand the effects of ***multiple*** developmental interventions, especially over time—how much is enough? How much is too much? How often are they needed?

- Professional development of researchers as mentors, coaches who can effectively aid new researchers grow their interdisciplinary collaboration skills

# Thank You!

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