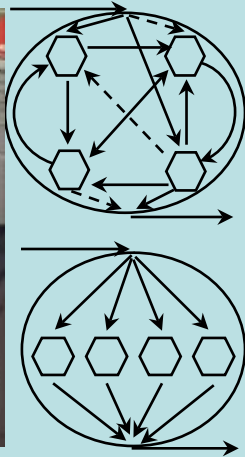




Team Knowledge: Origin, Emergence and Measurement

Kozlowski, S. W. J., & Chao, G. T. *Team knowledge: Origins, emergence, and measurement*. Office of Naval Research (N00014-09-1-0519). January 2009 to September 2013 [\$1,365,614 total costs].



Assessing Patterns of Team Knowledge Acquisition

Objective / Approach

- Team Learning Interventions
- Modeling of Team Learning Processes
- Measurement of Team Knowledge Acquisition:
 - Pool of individual knowledge
 - Configurations of the knowledge pool
 - Within team variance in acquisition rates
 - Rates of within team emergence from the individual to the team level
 - Between team variance in emergence rates

Capabilities Provided

- Team learning intervention design
- Capability to shape team learning processes
- Measurement principles and techniques for capturing team knowledge acquisition
- Generalizable measurement principles
- Capability to evaluate knowledge acquisition across different tasks and teams

Accomplishments / Transitions

- New Start
- Conceptual Development in Progress
- Project will develop principles and techniques to shape team learning and measure team knowledge acquisition



Team Knowledge: Origin, Emergence and Measurement

S. W. J. Kozlowski & G. T. Chao, Principal Investigators

Executive Summary

This proposed 5 year research program presents a theoretical approach for conceptualizing the process of team learning and posits representations of resulting team knowledge measurement approaches for capturing its formation, emergence, and manifestation at the collective level of analysis. We first highlight the theoretical foundation and key conceptual drivers of the approach. It is founded on a distinction between learning processes and knowledge outcomes, the iterative process of knowledge acquisition and formation, and the origins of learning and knowledge at the psychological level (i.e., individual), but its pattern of emergence and manifestation at the collective level of the team (i.e., team learning and team knowledge are multilevel in nature). We then describe several ways to represent team knowledge conceptually and corresponding operationalizations for measuring it.

A set of interventions that will be developed and used to create variance in individual and team learning as a means to validate and refine the measures of team knowledge and its emergence: *Teamwork skills* training to enhance basic teamwork skills underlying team communication, collaboration, and development that should, in turn, enhance team knowledge acquisition; *Team cohesion* – by stimulating a tightly coupled team network (Chao & Moon, 2005) – to enhance member team member bonding to the team and its task, trust formation, and information sharing that should, in turn, enhance team knowledge acquisition; *Team learning orientation* that focuses team member attention on learning goals and processes (vs. performance goals and processes) that should enhance learning of the deeper and more complex strategic forms of team knowledge; and *Team metacognition* which is an intervention designed to sensitize the team to the regulatory process underlying learning – setting goals, monitoring performance, diagnosing discrepancies, managing affect, and appropriately revising strategies and reallocating effort – that, in turn, should enhance team knowledge acquisition and performance.