Employing a Cognitive Theory of Collaboration to Guide Team Process and Tool Selection*

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Agenda

- Benefits and Downfalls of Teamwork
- Utility of a Cognitive Theory of Collaboration
- Defining Knowledge Categories
- Using Knowledge Categories for Team Process and Tool Selection
- Summary

Teams and Teamwork

- Team Types
  - Action teams
  - Planning teams
  - Thinking teams
- Benefits
  - Leverage resources
  - Increase productivity
  - Improve efficiency

Team Failures

- Three causes of failure in teams
  - Lack of resources
  - Lack of motivation
  - Lack of knowledge

Approach to Cognitive Failures in Teams

- Define Knowledge Requirements
  - Team members must know what they need to know (Liang, 1995)
  - Knowledge must be distributed among members of a team (Wegner, 1987)
  - Taskwork v. Teamwork (Canon-Bowers, 1993)
  - Collaborative dialog generates knowledge (Argote, 2000)

Cognitive Theory: Knowledge Enablers

- Objective: Identify knowledge gaps
- Twelve Enablers
  - 6 Planning and team readiness Enablers
  - 6 Real-time task, team and situation assessment enablers

Planning/ Team Readiness	Real Time Assessment
•Goals	•Other's activities
•Plan	•External situation
•Dependencies	•Task progress
•Team Familiarity	•Mutual understanding
•Business Rules	•Plan viability
•Task experience	•Decision factors

Utility of the Cognitive Theory of Collaboration

- Organizes crucial team knowledge into categories
- Help Teams:
  - Diagnose knowledge gaps
  - Recognize behavioral symptoms
  - Identify potential risks
  - Review recommendations
  - Track progress over time

Employing a Cognitive Theory of Collaboration

- Methods
  - Education of knowledge requirements and enablers
  - Collaboration Advizor™
  - Objective Metrics Evaluation (Noble and Kirzl, 2003)
- Important Factors
  - Involve full team
  - Multiple evaluations

Application of Cognitive Theory to Tool and Process Selection

- Objective: Select a tool or process that will help put the missing knowledge in to place
- Knowing your problem enables you to know your ideal solution
- Tools and processes both attempt to fix problems
- Avoid wasting resources on the wrong remedy

From Problems to Solutions

Example 1

- Symptoms:
  - Team is missing deadlines
  - Team members duplicating work
- Related Knowledge Enabler
  - Task Progress
  - Other's activities
- Process Solutions
  - Schedule weekly team meetings
  - Post task status board in common meeting area
- Tool Solutions
  - Employ task tracking software

From Problems to Solutions (cont.)

Example 2

- Symptoms:
  - Information is not being shared
- Related Knowledge Enabler
  - Business Rules
- Process Solutions
  - Identify field experts within team
- Tool Solutions
  - Adopt knowledge management repository

Summary

- Cognitive gaps in teams can lead to failure
- Being aware of cognitive aspects of collaboration can reduce risk of failure
- Cognitive theory of collaboration organizes knowledge into categories
- Teams can recognize symptoms and risks, diagnose problems and identify requirements for needed solutions
- Team diagnosis can guide tool and process selection to put needed knowledge in place