Overcoming Obstacles to Collaboration

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The Promise of Parallel Planning

- **Parallel Planning:** Parallel planning is two or more echelons planning for the same operation nearly simultaneously. It is facilitated by continuous information sharing by the higher headquarters with subordinate units concerning future operations. Parallel planning requires significant interaction between echelons. With parallel planning, subordinate units do not wait for their higher headquarters to publish an operations order to begin their own planning and orders development process.

- US Army Planning and Orders Production (FM 5-0)
Challenging Old Paradigms

Overcoming barriers in...
- **Space**: Physical co-location for collaboration
- **Hierarchy**: Integrity of command teams
- **Time**: Sequential planning
... to facilitate integrated planning!
New Concept: TIM
New Concept: TCM

Transition to Execution Phase
Mechanisms for sharing intent

Explicit Intent

Implicit Intent (personal, military, & cultural expectations)

Socialisation

Person A

Person B

Externalisation

Dialogue

Internalisation

Externalisation
New Concept: TCM

Division G3

Assistant G3

Bde S3
MissionMate

- PowerMap
- PowerMind
- PowerVC
Theoretical Model

Shared Mental Model

- Increases
- Improves
- Enables

Ideas Exchange

- Increases
- Allows for

Time Resource

- Creates
- Enables

Active Info Sharing

- Increases
- Decreases

Mental Capacity

- Decreases

Team Performance

- Enables
- Increases

Quality of plans in SME

Team Subjective Rating (Participants + Observers)

Probes into Mental Model & understanding of Command Intent

<Participants + SME>

NASA-TLX <participants>

KBP Process <Participants + Observers>

Questionnaires <Observers + Participants>

Objective count <communication logs>

Time Profile

TIM

TCM

Independent variable

Facilitated by TeamSight
Hypotheses

1) TCM augmented with TeamSight would allow Parallel Teams to compress the planning cycle thereby increasing the operational tempo.

2) TCM would result in a greater amount of collaborative communication (idea exchange) – key focus in this presentation.

3) TCM compared with TIM will result in no loss in plan quality.

4) TCM compared with TIM will result in greater level of shared mental models.
5 Experiments Conducted

- Singapore and Swedish Armed Forces
- Mainly Majors
- Between 30 to 40 years old Officers
- TIM and TCM Experimented
Discussion of findings (1)

• Did TIM/TCM-KBP compress the planning cycle?
  – YES! Notwithstanding that support plans not fully developed
  – Savings in time due to:
    • Process
    • Technology
  – Whether this translates to enhanced operational tempo remains to be tested…
    • Test against a scenario where the units have to plan, execute, re-plan, execute…
• Did TCM and TIM give rise to a greater amount of collaborative communication (idea exchange)?

  – TCM did not see a marked increase in idea exchange
## Problems with Collaboration

<table>
<thead>
<tr>
<th>Obstacles</th>
<th>Description</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>High workload</td>
<td>When the general workload is high</td>
<td>Reduce the interest to collaborate between echelons and Staffs</td>
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<tr>
<td>Hierarchical mindset</td>
<td>When each staff think of itself as primary belonging to a specific hierarchical unit</td>
<td>Collaboration with other echelons of command not well accepted during the planning process, except for issuing/receiving orders.</td>
</tr>
<tr>
<td>Primary group vs. Secondary group thinking</td>
<td>When only the members of the own section/staff is viewed as the primary group</td>
<td>Physical presence of own staff team members overrides the secondary group, leading to pre-planning among the members of the primary group</td>
</tr>
<tr>
<td>Traditional flow of orders</td>
<td>Orders traditionally flow from higher to lower units and higher staffs “direct” lower staffs, they don’t “collaborate”</td>
<td>No real incentive to (true) collaboration</td>
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<td>Tem resistance</td>
<td>Collaboration through C2 systems is not trained or not a habit.</td>
<td>Staffs have a tendency to avoid using the computer-based tools for collaboration</td>
</tr>
<tr>
<td>Tem limitations</td>
<td>For example limited connectivity in time or bandwidth, low resolution video/audio, etc</td>
<td>Technical problems makes network collaboration between physically distributed staffs more difficult than face-to-face collaboration. If difficulties are frequent, the system is less and less used for collaboration.</td>
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<td>To-Face mindset</td>
<td>When staff members believe that face-to-face communication is the best means to collaborate and elicit understanding from the group instead of using the C2</td>
<td>Staffs have a tendency to avoid using the Computer-based tools for collaboration</td>
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<td>Had to think first</td>
<td>Higher HQ/staff think that collaboration with lower staff too early in the planning cycle would create difficulties, because they themselves don’t get enough time to think things over before they have to engage subordinates</td>
<td>Higher HQ/staff issue planning guidance to lower echelon HQ/staff instead of true collaboration with them</td>
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<tr>
<td>Clear directives from HHQ</td>
<td>When subordinated HQ/Staff prefers clear guidance from HHQ</td>
<td>True collaboration between echelons is reduced because it disrupts the process of the subordinated staffs as they prefer clear guidance from HHQ</td>
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Overcoming Problems to Collaboration

Our Experiments had too many team members. Thus, tendency for most team members not to share and be passive:

– Establish Smaller Scale Points of Collaboration (about 5 to 10 in an experiment)

• Independently

• Dependentely on larger Exercise Context and Force
Establish Points of Collaboration (POC)
Team Edge Collaboration (TEM)

Points of Collaboration:
- Movement
- Phases of operations
- Target objectives
- Fire Plan
- Replenishment

Fire Support Officer
Intelligence Officer
Ops Officer
Log Officer
Battery commander
Overcoming Problems to Collaboration

Inculcating Collaboration process with C2 systems early in Military Schools

– Establish Processes to collaborate

– Blur the line between Primary Group and Secondary Group

– Create Incentives
Thank You

Questions?
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