



**Simulation Interoperability
Standards Organization**

"Simulation Interoperability & Reuse through Standards"

Aptitude for Command Evaluations: Implementation Opportunities for Cognitive Science

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Introduction

This presentation will advance three theses:

1. Command thinking is vital to a strong defense posture
2. Command thinking can best be inculcated with skill training
3. Command thinking can effectively be implemented

This can be done via globally accessible computer-aided instruction, especially in the light of current staffing and funding constraints.

While evidence will be adduced to support all three theses, it is a given that this is not the proper vehicle for an irrefutable proof of any of these theses. The issues will be from the authors' personal research and insights arising out of military service and the community at large.



Skills Needed to Lead

- **Training & assessing better DoD leaders necessary; daunting issues**
 - Today's daunting defense issues that mandate a response to that challenge
 - *Leaders must be equipped with and fortified by critical thinking skills*
- **This would optimally be a training function**
 - Adoption of this idea is difficult in an over-tasked and under-funded DoD
- **Leadership Training over the Centuries**
 - Classical Greece
 - Napoleonic Wars
 - American Civil War
 - World War II
 - Gulf Wars
 - Future?



What Are the Parameters of Good Leaders

- **More than just a “G-Factor” test**
 - Command needs more than intellectual excellence
 - *Caltech*
 - *USC*
- **Command Presence**
 - Application for commission picture
 - Football Q-Backs
- **Communicator**
 - Voice of command
 - Gen Lew Wallace
- **Manifest Analytical Capability**
 - Hauptman Irwin Rommel



Can Critical Thinking for Command be Identified

Some amount of consideration has been given to parameters

Collecting data
Categorizing and analyzing
Using the insights gained

Reviewing initial conclusions
Combining ideas and expanding uses
Internalizing the high order concepts

Can be Taught by Various Means with Measurable Success

Didactic lectures	Constructive Technique
Small group exercises	Model analyses
Text book exposition	Socratic dialogues



Computer Simulation for Better Engagement

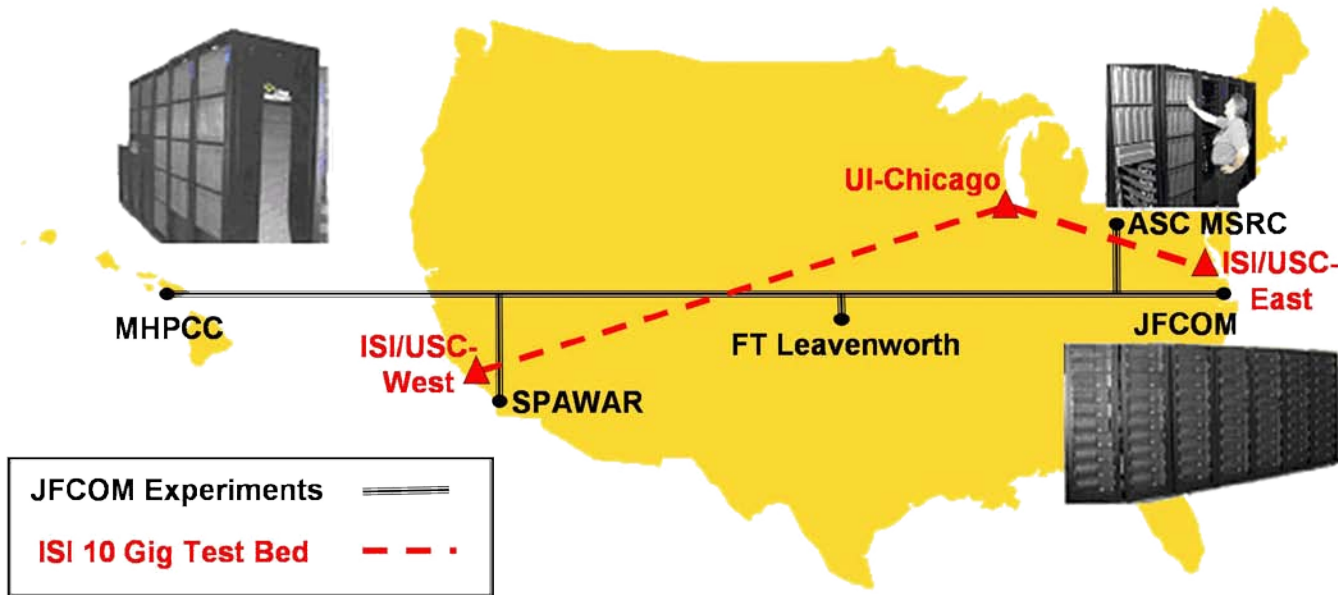
- **Some Studies have shown that On-Line can get better trainee focus**
 - People talk longer and subjects have been shown to be more sensitive
- **One Technique was to Use a Series of Video clips**
 - Emulated a Video Conference
 - Using NLP, could select, cue up, and initiate the appropriate clip in <500 msec
 - Many possible counselors offered and it rated as very engaging





Earlier Project showed Transcontinental Reach of Internet

- **Can Provide 24 X 7 accessibility with acceptable latencies**
 - Three servers (So California, Australia and Italy would cover globe)
 - Select and “field” the most engaging counselors; homogeneity assured





Using Battlefield Simulations

- **Even a one-on-one conversational may not give best engagement**
 - Good communications
 - Lack immediacies of combat
 - Real-time or adjusted time frames to get best result
- **Battlespace simulations may give more engaging “sand box.”**
 - Allow for better analog of combat
 - Scenarios could be developed to present command problems
- **Excellent Training to Optimize Command capabilities**
 - Individualized for mission goals or individual needs
- **Develop Assessment Programs to Spot Better Personnel Assignments**
 - Better to find strengths and weaknesses before making critical choices
 - AI program could help find appropriate metrics



Existing Simulations Could Provide Platforms

- **Many Full Battlespace Simulations Are Extant**
 - ModSAF or progeny would be available candidates
 - *JSAF or OneSAF*
- **Create Scenarios based on various histories from recent combat**
 - Design study for scenario development: good topic for NPS/AFIT MS Thesis
 - Would not remove Human Judgment from selection





Command Thinking and Simulation Standards

- **Cross-Platform Interoperability Standards**
 - Ensure proper interfaces with other platforms
 - Investigate potential users from outside of military simulation
- **Behavioral scenario creation applications**
 - Consider new set of behavioral scene adjuncts to scenarios
 - Examine possibilities of creating/adopting more universal tack
- **Evaluation Standards**
 - Investigate accepted assessment analysis programs
 - Evaluate use for assessing command candidates
- **AI Scenario Creation**
 - Examine and assess use of AI (*e.g.* ChatGPT) for scenario generation



Conclusions

To meet the threats posed in the 21st Century and still honor societal constraints and financial limits, the govern should make optimal use of the strengths of the allied powers. Among these are a highly educated and motivated intellectual capability that has a set of infrastructure tools available to teach improved analytic and decision approaches to military personnel. The authors maintain that critical thinking is vital, can be inculcated by training and is most practicably implemented by distributed computer-aided instruction and skill maintenance.



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Q&A / Discussion