

Pedagogical use of ELICIT

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Mary Ruddy

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Agenda

- Overview and original intent of ELICIT
- Evolution of classroom use
- Key success factors
- Lessons illustrated
- Sample discussion topics
- Where used
- How to get involved

ELICIT Introduction

- ELICIT-Experimental Laboratory for Investigating Collaboration, Information-sharing and Trust
 - Part of the Command and Control Research Program (CCRP)'s network-centric warfare initiative
 - Engaged in developing and testing principles of organization that transfer power and decision rights to the edge of the organization
 - Needed to frame testable hypotheses about the relative effectiveness of edge organizations in comparison to other methods of organization through a series of real-world simulations
 - Facility was created to run these experiments

Base Experiment

- Hypothesis testing experiment
- Live subjects, multi-user
- Run in edge or traditional hierarchy mode
- Experiment software records all actions for analysis

Experiment Task

- Identify the who, what, where and when of an adversary attack
- Task scenarios are anonymized
- Participants are anonymized
- Participants periodically receive factoids about the situation
- No one person has all the information needed
- Task success requires communication

ELICIT Evolution

- More flexibility in organization structure
- More flexibility in communications options
- More flexibility in task scenario
- Humans and software agents
- Use as a training tool

Evolution of Classroom Use



Research feedback

- Ad hoc
- No leader or agenda
- Not part of formal course
- Single point of experience
- Undergraduates

Evolution of Classroom Use



Opportunity for lesson

- Part of cadet education, but not formal class
- Discussion leader
- Multiple points of experience

Evolution of Classroom Use



Classroom session

- Guest discussion leaders
- Extended planned discussion
- Multiple points of experience

Evolution of Classroom Use



- Day long special topic
- Multiple guest discussion leaders
- Pre and post discussions
- Multiple points of experience
- Detailed analysis feedback

Evolution of Classroom Use

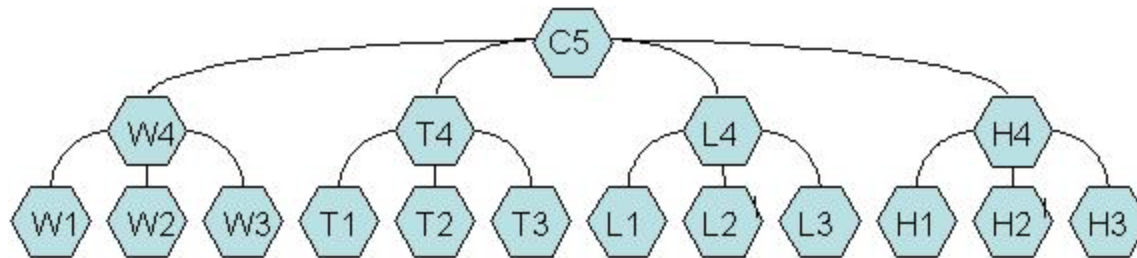


Part of multi-session course

- Integrated with lesson plan
- Guest discussion leader
- Multiple points of experience
- Detailed analysis feedback
- Multiple iterations for deeper insights
- Award winning course

Key Success Factors

- Live comparison - structuring the class to provide experiences in both edge and traditional command and control hierarchy organizational structures



Key Success Factors (cont.)

- Integrating ELICIT into the educational program
- Having a strong, credible discussion leader
- Arranging for technical support
- Arranging to use scenarios that are relevant and realistic for the class.
- Arranging for appropriate class size

Lessons Demonstrated

- The organizational structure (network structure) you use matters
 - Don't assume the organization. structure you start with is the right one for every task (Cranfield University)
- The power of distributed leadership is valuable especially in solving complex and network problems
- The starting level of group trust influences the effectiveness of an organizational structure (NPS)

Lessons Demonstrated (cont.)

- More bandwidth doesn't always make it easier to do the task. (Singapore Armed Forces Centre for Military Experimentation)
- Situation conditions and training impact the optimal choice of organization structure (NPS and Portuguese Military Academy)
- Many, though not all, of the tasks performed by today's military, military analyst or knowledge worker are better performed in edge rather than traditional command and control hierarchy organizational structures

Sample Discussion Topics Include

- How will more connectivity impact task performance? Is the answer different for timeliness and accuracy?
- In what situations are edge organizations more appropriate and in which situations are traditional command and control hierarchies more effective?
- How does previous training influence ability to perform under different organizational structures?
- Should team trust influence the organization structure chosen? If so how?

Sample Discussion Topics (cont.)

- How well do you trust the answers you determined during the exercise?
- Did anyone in your group hoard information? If so, why? What was the effect?
- Did anyone in your group spam the group? If so why? What was the effect?
- What types of team member behavior are not effective in particular organization structures?
- How should an ideal team member behave in particular organizational structures?

Participating Research Institutions

Civilian

- Boston University
- Harvard University
- Loyalist College, Canada
- University of South Hampton, UK
- York University, Canada

Participating Research Institutions

Military

- Army Research Labs (ARL)
- Cranfield University
- Defense Research and Development , Canada
- Defense Academy of the United Kingdom
- George Mason University
- Johns Hopkins University
- Military Polytechnic Academy, Army of Chile
- National Defense University
- Naval Post Graduate School
- Portuguese Military Academy
- Singapore Armed Forces Centre For Military Experimentation
- US Army War College
- US Military Academy

Next Steps

- Continuing feedback loop – bringing new research to classroom
- Teaching the new skill of how to optimize the organizational approach for the task and situation
- Individualized training

ELICIT v2.5

For More Information

The CCRP makes ELICIT available free of charge to all members of the ELICIT Community of Interest (COI)

Information about joining the COI is available at
<http://www.dodccrp.org/html4/elicit.html>

For more information about the CCRP or ELICIT
contact Dr. David.Alberts [at] osd.mil or
Mary [at] azigo.com

Q&A