Avoiding Lessons Relearned in Collaboration Experimentation

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Background

- Collaboration research & experimentation in Department of Defense (DoD) has grown rapidly since the late 1990's
- Emergence of several collaboration systems & tool suites used among various communities within DoD
- Interest in how people effectively collaborate, share critical information, & facilitate the decision-making process across time and space has results in the conduct of several Joint, Navy, & Marine Corps experiments

Experiments

- Joint Forces Command's (JFCOM) Experiments
  - Millennium Challenge 2000 & 2002
  - Unified Vision 2001
  - Limited Objectives Experiments
- USMC's Hunter Warrior & Capable Warrior
- Extending the Littoral Battlespace (ELB)
- CINC 21 – DCTS deployment / evaluation
- Joint Warrior Interoperability Demonstration (JWID) 95, 96, & 97
- Tactical Decision Making Under Stress (TADMUS 91)

Problem Space

- From authors' experiences & observations:
  - Discerned several re-occurring themes suitable for Lessons Learned
  - Similarity of collaboration experiences from users in both small and large scale venues
  - Several themes continue to be repeated

Presentation Goal

- Avoiding Lessons Re-learned in:
  - Training
  - Documentation, Business Rules & Processes
  - Test & Integration
  - Users' Participation
  - Data Collection & Analysis
- Sharing these insights and best practices may help others to avoid the relearning of collaboration lessons already learned by others

Training

- Collaboration researchers need to make training an integral part of their experiment's preparation
- Encourage 3-tier approach
  - Establish a climate for repeated practice opportunities for users to develop proficient use of the tools
  - Inform how tools will help with anticipated tasks & assignments
  - Forge an organizational commitment to collaboration processes and business rules
- Trainers are valuable resources
  - Help provide the first glance of user acceptance & user problems
- Encourage user buy in with non-task specific problem sets

Documentation

- Business rules and processes are critical for effective and efficient collaboration
- Standard operating procedures (SOPs) and Business rules need to be published
  - Ensure users read, understand, and accept as their own
  - If a business rule needs to be changed to accommodate your users, recommend taking immediate action to revise it
- Recording of collaboration sessions
- Documenting of decisions made in virtual sessions
  - Ensure collaboration decisions are documented (hard copy or posted on a web site) for those attending as well as those not attending

Test & Integration

- Never enough time to test or work out installation problems, software bugs, or hardware and software inefficiencies
- Include your network engineer & system administrator in planning and maintenance is imperative
  - Collaboration systems require healthy networks
  - Maintaining them is no small matter
- We have found that using network engineers and computer programmers (for appropriate level trouble-shooting) guarantees a more efficient process

Users & Participation

- Expect the loss of some trained users for your event
- Be prepare to offer refresher training or practice sessions to help bring new users to up-to-speed
- Make opportunities for practice collaboration sessions among users at home organizations or web-based events
- Users typically experience a rapid 3-4 day learning curve at start of event for various reasons
- Humanize the collaboration process with games and practice sessions

Data Collection & Analysis

- Easy question generation & survey construction methods are desired
  - Hang as favorites on web site
- Recommend automated data collection methods & display of scored data
- Access to on-line surveys with real-time ability to display group or individual results has tremendous value to both collaboration team and users
- Recommend survey results & data analyses be available 24/7 to all with one button access facilitate understanding of report findings.

Conclusions

- Avoid the relearning of lessons learned for every collaboration experience
- Understand your users (needs and goals)
- Encourage users to help evaluate their performance
- Humanizing the collaboration process in experimentation is a worthwhile goal
- Time and energies spent for these efforts will result in more productive and meaningful findings

Future Ideas

- Exploring insights of human behavior with how humans learn, interact, & share information (Brown & Duguid, 2000)
  - Especially the social contribution of learning, networks, communities of practice & sharing knowledge.
- Other promising areas warrant additional study in light of what we know today
  - Information richness (Daft & Lengel, 1984)
  - Sharing of public and private information (Stasser & Titus, 1985, 1987)
  - Individual vs. team cognitive measures (Evidence Based Research, 2000)