Working Group: Wargaming in Education

Working Group Structure

- Plenary Introduction and Instructions
- Breakout Topics:
  - Use of Wargames in Education on Cyber
  - Use of Technology and Digital Tools to Support use of Wargames in Education
  - Educational Wargaming on Low-intensity Conflicts and Counterinsurgency
  - Educating Wargame Practitioners
- Plenary briefouts from each breakout group

Working Group on Gaming Cyber for Education

- What are the existing needs in cyber education?
- Key gap is lack of information

Why a Lack of Information?

- Too much cyber info is classified or otherwise restricted, often unnecessarily
- Many materials are highly technical and not accessible to non-specialists

Needs depend on the audience

- **Technical experts in cyber** are the best supported by existing resources but there is room for improvement
- **Managers and policy makers** need cyber education but there are few tools available for this community
- **Designers of scenarios and general purpose games** need to learn enough about cyber to appropriately model the effects

Resources to Consider

- Key terminology
- Useful reference works
- Tested cyber games
- Available authorities
- Contacts for more information

Resources to Consider (cont.)

- Simple games to introduce key concepts to non experts
- Approved determination of what does and does not need to be classified for Cyber

Wargaming with Technology in Education

- Leverage commercial software in educational environment; make it more serious; use it when it is appropriate and fits
- Custom software – education does not have the deep pockets; could be used when no COTS games are a good fit
- Use video instruction in short pieces vice reading a rule book/manual
- Wargames should be used to reinforce learning; Avoid negative learning
- Transparency is an issue in computer games, some things buried in the code
- Distance Education – easier to give someone a URL instead of mailing them a gaming kit; updates more timely
- Web based games easier and cheaper than going through the software development cycle

Wargaming with Technology in Education

- Game development may be dependent on platform ability – need to be able to keep up on latest updates
- Technology comes with computation power and is highly repeatable and supports post analysis
- Quick to learn, slow to master – learning curve, want to play right away
- Scoring generates more attention to a game, “Does this count for a grade?”
- Scoring also used as a way to invest interest in what is being learned; learning rules not part of the education and does not build on necessary knowledge set; peer-to-peer games to focus students
- Single Vs. multiplayer – practice alone and play in teams
- Future may exploit augmented and virtual reality technology

Wargaming in Education
low intensity conflict table talk

- Current efforts
  - CTFP at NDU: “COIN of the Realm”
  - CTFP at NPS: ECCO simple abstract games
  - FLUXX
  - Matrix games: hybrid warfare, narrative control
- Gaps and shortfalls
  - Information operations: uncertain impact
  - compounded by cultural misunderstanding
  - Ineffective games and exercises
- Potential opportunities
  - How willing are we to play these games?
  - Game mechanics: info ops, better message, investment in culture
  - FLUXX, matrix games: unstructured games that permit wide action

Teaching Game Design Summary Outbrief

Compared courses from University of Amsterdam, US Federal Government, Embry Riddle Aeronautical University, Militay Operations Research Society, US Naval Postgradute School, and US Army Command & General Staff College, looking for noteworthy commonalities and clever ideas; looked at courses aimed at both analytic and training/education games.

Common practices:

1) Begin course by playing a game and redesigning it
2) Critical play of games
3) "Petting Zoo" to introduce mechanics faster
4) Testing vital to learning process

Cleverest idea:

Critical play of attractive but bad games (Anja van der Hulst, U of Amsterdam)

Many thanks to Jeff Nocton for excellent note-taking!

CWAR: Collaboration for Wargames in Academics and Research

- Quarterly roundtable of Department of Defense educational institutions
- Objectives are to:
  - Collaborate on best practices
  - Share game designs and materials
  - Coordinate to support major game executions
- If interested in joining contact Scott Chambers at scott.m.chambers.civ@ndu.edu
- If there's enough interest from civilian institutions, there could be a parallel group