



# WAR GAMING

UNITED STATES NAVAL WAR COLLEGE



## War Gaming as Reflective Practice

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We conduct our society's principal business through professionals specially trained to carry out that business, whether it be making war or defending the nation... Our principal formal institutions- schools, hospitals, government agencies, courts of law, armies- are arenas for the exercise of professional activity. We look to the professionals for the definition and solution to our problems..."

(Schon, 1983, p. 3-4)

War gaming is a technique for exploring and helping define complex and disorderly problems. Military professionals use war gaming as a tool to explore complex educational or analytic challenges confronting one or more military Services. In a related way, educational scholars describe reflective practice as a technique for professionals confronting "...problematic situations characterized by uncertainty, disorder, and indeterminacy" (Schön, 1983, p. 16). The scholarly credibility of educational and/or analytic war gaming may be enhanced by relating game design and analysis to existing scholarly literature. The applied research technique of war gaming is a form of reflective practice.

In a macro sense, reflective practice includes a deliberate pause after an activity to process and analyze thoughts (York-Barr, Sommers, Ghere, & Montie, 2001). There are several types of reflective practice described in scholarly literature, all that will resonate with war gamers. Pausing and reflecting facilitates learning by including, relating, and adapting one's prior professional and life experiences to similar, but often not exact, situations. Reflective practice facilitates decision making in complex situations as informed by prior experience (Merriam, Caffarella, & Baumgartner, 2007). However, critics note that "there is no evidence to support or refute the assumption that reflective practice enhances competence" (Mann, Gordon, & MacLeod, p. 615).

Reflection is a technique for professional improvement, often used in war gaming. Reflection is an important human activity in which people recapture their experience, think about it, mull over and evaluate it. It is this working with experience that is important to learning" (Boud, Keough, & Walker, 1984, p. 43). War games frequently incorporate periods of reflection during and after games. Reflection is an "...active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusion to which it tends" (Dewey,

1933). Under the overarching umbrella of reflective practice, there are different kinds of reflective practice:

- **Reflection-in-action:** deliberate thinking, such as through the questioning of assumptions in the midst of performing an activity (Schön, 1983, 1987).
- **Reflection-on-action:** thinking about an event after the fact (Boud, 1994).

### **Reflection-in-Action**

War game players “reflect-in-action” when asked to submit a move without all the information desired to make a fully informed decision. Reflection-in-action refers to experience-based, second-nature, intuitive thinking by an experienced practitioner, such as artisans, craftsmen, athletes, scholars, or military professionals, in the course of performing a task. Experts apply reflection-in-action when “...thinking what they are doing while they are doing it...” especially when applying extensive prior experience “...to situations of uncertainty, uniqueness, and conflict...” (Schon, 1987, p. xi). During war games, individual military expert practitioners intuitively apply reflection-in-action when applying their years of experience and expertise to discern the best response to a game move requirement, especially when discerning any problem-unique nuances to the game problem presented.

In addition to *individual* reflection-in-action, war games provide an ideal venue for dynamic, *collective* reflection-in-action, that is, a group of players working together to solve a problem. For example, a game simulating an operational planning team organized to solve an operational problem requires expert inputs from several discrete areas of professional expertise. Areas of expertise needed could include experts in undersea warfare, surface warfare, air warfare, intelligence, communications, etc. Individual subject matter experts bring their individual reflection-in-action expertise incorporating and aggregating the collective expertise within a group. The interplay of expertise from different professional perspectives may identify problems and possible solutions not originally seen when viewed only through the lens of one’s own profession. While reflection-in-action is focused in-the-moment, reflection-on-action is retrospective.

### **Reflection-on-Action**

As contrasted with reflection-in-action, reflection-*on*-action occurs after an action or activity. Reflection-on-action includes asking what happened, why it happened, and what improvements are needed (York-Barr, et al., 2001). Examples of reflection-on-action include a post-flight debriefing, or documenting lessons learned after an exercise. War game players are asked “reflect-on-action” during post-game plenary “hot wash” sessions, where subject matter experts are guided through a discussion of key points identified in the game.

Complementing the idea of reflection-on-action, David Kolb (1984) described a four stage experiential learning cycle consisting of: task performance (“concrete experience”), thinking about the task performed (“reflective observation”), developing a mental model of the task performed within a broader context (“abstract conceptualization”), and finally,

testing one's mental model in a new situation ("active experimentation"). While war games often incorporate all four stages of Kolb's (1984) experiential learning cycle (concrete experience, reflective observation, and abstract conceptualization, and active experimentation), there may be challenges to reflecting on one's experiences

### **Barriers to Reflection**

Busy military professionals may have limited time to dedicate for reflection. Participation in a war game provides an environment more conducive to reflection, ideally free from workplace distractions. Another barrier to reflection is concern for being critiqued by peers or seniors for speaking contrary to the collective view of the group. Finally, excessive self-confidence can hamper reflection in one not disposed to self-critique.

### **Overcoming Barriers to Reflection**

War game team members can address potential barriers to communication at several occasions throughout a game. A pre-game briefing to the senior officer participating in the game could include a request to make opening remarks encouraging a free exchange of views, for example explicitly encouraging inputs and contrary views from junior officers or those from non-warfare specialty backgrounds. The briefing to the senior officer may also include the game's purpose and objectives, increasing the senior officer's awareness of how they can best constructively contribute to game objectives. Finally, most games include a post-game plenary session intended to provide an opportunity for players to reflect on the significance of their individual and collective game experiences relative to game objectives. A focused discussion led by a war game faculty member, as opposed to a rambling free-flow player-led discussion, can drive the discussion toward reflection related to game objectives.

In conclusion, war gaming adapts reflective practice and experiential learning as described in scholarly literature. Barriers to reflection exist, but can be mitigated if planned for. War games provide opportunities to reflect-in-action during game execution and reflect-on-action to discern the meaning and relevance of players' experiences relative to game objectives during facilitated post-game plenary sessions.

## References

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