

COMMERCIAL OFF-THE-SHELF WARGAME A POTENTIAL MILITARY EDUCATION TOOL

A wargaming battle lab (WG BL) started recently, looking to identify the benefits commercial off-the-shelf wargames may offer as a professional military education tool.

The concept itself is not new – historically the New Zealand Army provided TACOPs software to officer cadets and junior officers for use on work or home computers, allowing the doctrine and concepts taught on command and staff courses to be practised, rehearsed and trialled in a simulated environment.

TACOPs itself was basic, having been designed in 1994, and consisted largely of icons moving on a simplified map and engaging other icons. Ranges, visibility and weapon effects were simulated, but despite the simplistic nature of the software, TACOPs was used successfully by a range of militaries, including the New Zealand Army, the Australian Army and the United States Marine Corps.

The BL Concept

The WG BL is intended for personal use outside work on home computers. This is deliberate – it is felt that “after hours” use will make wargaming more accessible to the intended audience, and will allow for greater experimentation than a work-based system. Avoiding NZDF IT systems allows far greater access to a wider audience, with the addition of software, especially graphic-intensive systems, being almost impossible on most DIXS workstations.

The software is provided as an unstructured “sand-box” for experimentation and use, and is not aligned to specific

courses. LOTC students are already expected to undertake pre-course and after-hours study during promotion courses, and the WG BL is providing another means of study and experimentation, to course students and junior commanders.

NB: It should be noted that the WG BL is dealing with constructive simulation for use as a personal PME tool, and as such has no correlation or relationship to the Mission Command Training School (sim centre), which already provides virtual, constructive and collaborative simulation for courses and staff training.

The Battle Lab Experiment

The battle lab will be run in 2017, with participants provided access to use the software on personal computers. Later this year questionnaires will capture feedback from participants, and a report will be drafted capturing the costs and benefits the wargaming software can offer.

An indicative software system has been identified to test the concept as part of the battle lab, which has been targeted at the junior officer (OCDT – MAJ) level. This rank bracket has been targeted because it is assessed to be the best audience for experimentation, with software allowing for platoon – battle group (battalion) level wargaming. Further, the education and training pathways within the junior officer career stream link closely with the software, because the Grade 2 and Grade 3 Staff and Tactics courses all officers undertake are inherently linked to combined arms tactics and wargaming.

Despite the battle lab identifying the initial target audience as junior officers, SNCOs in QAMR are already involved to see if utility for the WG BL also exists in other rank brackets.

The findings from the WG BL will be provided to TRADOC and to AGS to help determine the value and viability of COTS wargaming software in the NZ Army.

WG BL Software – Combat Mission: Black Sea (CMBS)

The software selected is a commercially available item sold by the US company Battlefront. The Combat Mission

series of wargames has previously been used by the US Army, Australian Army and Canadian Army in various capacities.

The version of Combat Mission selected for trial in the WG BL, CMBS, incorporates modern US Army and Russian equipment in a fictional Ukrainian war scenario. Black Sea is available for Windows and Apple OS with minimal system requirements – ie, a laptop less than five years old should be able to run it. It should be noted that the fictional scenario is purely a vehicle for experimentation and education, and the inclusion of US, Russian and Ukrainian forces is Battlefront’s decision to piece together a modern warfare scenario and does not reflect any NZ Army policy or position.

CMBS incorporates all elements of small-unit combined arms warfare in a contemporary environment, including close-air support, RPAS, active-protection systems on armour, networked force considerations, mounted/dismounted manoeuvre, morale and suppression, offensive support, and ammunition consumption. It is marketed as leaning towards the realistic side of the wargaming spectrum, but remains a commercial product designed to be accessible to the general market, and as a result is designed around a reasonably intuitive interface, including tutorials and manuals.

CMBS has limitations, which include the lack of mission command-style orders, and unbalanced commercial scenarios that do not reflect military doctrine. Black Sea seems to be strongest when used to simulate offensive operations, with the CMBS artificial intelligence and scenario system best suited to allowing the human player to attack and the computer to defend.

How to get involved

About 100 software licences have already been distributed, with about 50 remaining. If you want to participate and have not already been invited to do so through your chain of command, please contact 2LT Campbell Smith.

WARGAMING

“Wargaming helps decision makers to plan beyond H-Hour. This allows courses of action to be compared and contingencies to be identified ahead of time.

Wargaming and red-teaming will need to be more deeply institutionalised in the future land force, to support operational success.”

from Future Land Operating Concept 2035: Integrated Land Missions

Benefits of Wargaming

Wargames are not able to replace or even replicate formal training or physical field exercises. They can, however, reinforce teaching and provide a framework for experimentation. Above all, wargaming allows a commander to practise decision making – and receive feedback on his or her decisions – thousands of times, increasing their level and range of experiences in certain areas.

Commercial off-the-shelf (COTS) wargaming software in particular provides a range of options and benefits that can be leveraged as a PME tool to support formal Army training and education. COTS wargaming software offers the following benefits:

- **Accessibility.** Tactical scenarios are easily available to anyone with a basic personal computer, allowing frequent and self-paced access to a range of scenarios. This enables self-teaching, allowing progression and the shifting of focus at one’s own pace.
- **Repetition.** While narrow in experience and artificial in nature, software allows a commander to wargame

the same scenario multiple times, with or without variable elements. This allows for the accumulation of experience in certain areas, which cannot be replicated in a field exercise.

- **Access to capabilities.** Commanders can be exposed to a range of expensive, high-end capabilities, such as offensive support, close air support, remote and autonomous systems (such as UAVs) and Main Battle Tanks, which they are rarely exposed to in training.
- **Rapid, tangible feedback and arbitration.** Software provides clear, neutral arbitration on engagements and tactical tasks, and as a result can provide rapid and tangible feedback on planning and decision making.
- **Platform for innovation and experimentation.** The nature of wargaming software encourages repeat attempts and frequent restarts against a common scenario with rapid feedback loops, allowing individualised experimentation without the consequences or pressure inherent to other Army training activities, such as course TEWTs or unit exercises. Learning and training outside the classroom engenders and encourages greater creativity in approaching tactical decision making and experimenting with less conventional options and approaches.

In addition, COTS wargaming software can help mitigate existing capability gaps and training shortfalls:

- **Weapons Effects Demonstrations.** Weapon Effects Demonstrations used to be conducted regularly, involving verbal briefs on contemporary weapon

systems, followed by a demonstration of their firing against pre-determined targets. However, they are becoming increasingly expensive, given the nature of many weapon systems, and competing pressure, outputs and tempo of operations results in fewer personnel being exposed to these demonstrations regularly. COTS wargaming software provides some ability to mitigate this lack of exposure to weapons effects demonstrations, using the simulated environment as a platform for personnel to experiment with the effects of various weapons systems. While not a substitute for physically observing weapon systems and their effects in action, being exposed to the systems in a simulated environment does “bring to life” in other ways the various employment considerations, constraints and strengths of military capabilities, especially when the simulated environment incorporates specific capabilities as part of the combined arms battle.

- **Exposure to combined arms capabilities.** The ability to participate in a combined-arms environment, and experiencing and being exposed to all capabilities in the modern land force, is increasingly difficult given the trend to increasingly dispersed manoeuvres. As with weapons effects demonstrations, wargaming software allows commanders the opportunity to observe, assess and experiment with a wide range of simulated combined-arms tactics and capabilities that they would otherwise not be exposed to in routine training.

