Decision Time

Visiting an infantry battalion
by GySgt Paul Nichols, USMC(Ret)

The Spartan helmet, shield, sword, spear, greaves, and breast plate are no longer hanging on the CO's conference room wall. Different pieces of the Spartan gear are now kept at the company offices and displayed front and center on "gear trees" during formations. The right to display the gear is won through competition during the quarterly Spartan Games.

Every day, the OOD gives a TDG to the duty NCOs; every Tuesday at 0500, an Advance Warfighting Seminar is held that is open to all, usually 10–15 Marines attend. Weekly "war counsels" with the officers, SNCOs, and sergeants gather to go over SOPs, discuss tactics, and voice opinions. The sergeants sit up front and are the last to vote since they will be doing the execution. PME is driven from top-down, then bottom-up refined.

The second visit was in August to witness training being done with the

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decision room, with an ad hoc collection of computers that were scheduled for disposal utilizing software that has been around since 2002. The Office of Naval Research (ONR) had also brought in a project that they were working on—Accelerating Development of Small Unit Decision Making (ADSUDM). I talked to some of the Marines from the battalion and received mixed reviews. They weren't really sure where the battalion was going with this concept. I also saw Marines doing immediate action drills in the quad.

In September, during Marine Week in Nashville, I ran into a lance corporal from Fox Company. I asked him about the decision room. He explained how he worked on fire team, squad, and platoon tactics at 0200 the day before they left for Nashville.

My third visit, in November 2016, was by invitation to attend the Spartan Technology and Innovation Week. From August to November, ten decision rooms had spread through the battalion. The battalion was able to find enough computers to outfit two decision rooms per company with two more in the battalion command post. The Spartan Emerging Technology Week reviewed the capabilities of simulation-based training the battalion created by utilizing readily-available technology. One of the systems the battalion employed was the Augmented Immersive Team Trainer (AITT). The 81mm mortar platoon showcased their ability to train forward observers during the eagle eye challenge utilizing this augmented reality system. Platoon commanders built Interactive Tactical Decision Games (ITDG), the subject being each of their most recent operations during the most recent 10-day field exercise. Honesty traces of each attack were included with each ITDG, provided through overlays collected via the Instrumented Tactical Engagement System II (ITESS II), showing exactly what occurred throughout the entire operation. Importing data from GoPro cameras worn by the Marines, the platoon commanders created scenarios specific to very detailed and complex decision points. I witnessed platoon commanders reviewing each of their own decisions over and over again, like a football team. The commanders then brought their squad leaders and team leaders through each ITDG in the battalion classroom, presenting their leaders with the decision points. Squad and team leaders were forced to make the same decisions as company and platoon commanders through ITDG.

Fox Company, 2/6, conducting MOUT operations. (Photo by PFC Angel Travis, 2dMarDiv Combat Camera.)

Each repetition of a decision builds the recognition primed decision-making capability of the Marine. Throughout the week, squad competitions were held using Bohemia's Virtual BattleSpace II. At the conclusion of the scenario, the Marines would gather and debrief using the recorded video and data of each engagement. Cognitive scientists were never far away, recording and questioning Marines to discover why they made the decisions they did. A sampling of Marines participated in the decision requirements interview, testing the capabilities of individual Marines in a verbal test.

The intelligence office was in the field mapping sections of the local MOUT [military operations on urbanized terrain] facility with a DJI Phantom quadcopter. They took the images, reproduced a three dimension virtual map, and imported the map file onto a couple Microsoft HoloLens. This map was then used, in conjunction with ITDG, in the battalion's planning during the next field exercise.

My fourth visit was only for three hours. I linked up with the battalion at Golf-3 Observation Post to observe forward observer training being conducted with live ammunition against virtual targets using the AITT. After observing the training, I left the hill to talk to some Marines about the training. They pointed out that there wasn't a need for virtual targets because there were real targets on the range. I mentioned that most of those targets were probably on the range 20 years ago; probably still on the old maps that I used back then. This is when we came to the understanding that the virtual targets offered training in locating new targets and the target location could change constantly. I then left for the MOUT facility.

I arrived at the MOUT facility command post about 20 minutes before the main party. I had a chance to get an advanced look at what was about to be presented. The battalion, with help using ONR hardware, had completed the 3D map using a DJI Phantom quadcopter. Using the HoloLens with the 3D map, they were able to discover terrain obstacles that were not present on other terrain data bases. The S-2 used the Ho-

Modern technology allows these Marines to critically examine their TDG choices. (Photo by LtCol Marcus Mainz.)

loLens to brief the battalion which then launched reconnaissance assets within two hours and complete the planning in a little over four hours. The Headquar-

> **Marines use Tactical Decision Game (TDG) software to practice decision-making repetitions.**

ters & Services Company Commander stayed in the ITESS van and focused on data collection while the companies conducted force on force training. All data was fed into the ITDG.

In garrison, the Marines have unlimited access the decision rooms. Daily—to include weekends and holidays—Marines use Tactical Decision Game (TDG) software to practice decision-making repetitions. A few days before a FEX begins the Marines start planning using the HoloLens and ITDG. The Company orders are passed down to the platoons using the ITDG. Mission planning is then done out in the field using ITDG and HoloLens. During the execution, ITESS II captures all of the

data on movement and engagement. This data is then fed into the ITDG and the small unit leaders are given an after-action review in the field. When the battalion returns to garrison all of the data is accessible as a TDG for the Marines study down to the individual level.

This is, without a doubt, the best training that I have ever witnessed. The finished TDG is an objective assessment of training that was completed and can be easily referenced by anyone in the battalion to build on lessons learned. The ITDG is being used as the "glue" that binds the various training systems into one manageable and recordable training event.

The battalion has managed to merge various training systems into one final product: a robust after-action review/TDG that captures all aspects of the training and affords an opportunity to continuously learn from the event once back in garrison. The TDG gives an objective look at what training actually occurred. While the Battalion managed to do this seamlessly, generally, in my opinion, our training systems stay within well-defined corridors that don't facilitate cross pollination.

U.S.M.C.