

# Cultural awareness systems help soldiers navigate human terrain

Kinetic actions are just one facet of coalition operations in Afghanistan and greater emphasis must be placed on providing the military with an understanding of the local cultures, reports **Huw Williams**

**B**illions of dollars are spent on training and simulation annually by the US Army alone. While much of this is to prepare soldiers for combat, the counter-insurgency fight in Afghanistan is one among the people and which requires a greater understanding of the human terrain than arguably any other since the Vietnam war. The failing of coalition forces to win over the populations of Afghanistan and Iraq have led them to recognise that an understanding of cultural, societal, economic, and governance issues is essential if they are to operate effectively and achieve their mission goals.

The training community has responded – albeit slowly in some instances – and developed systems and programmes to prepare personnel for operations in often completely alien surroundings, with solutions ranging from simply adding texture to pre-deployment exercises to virtual systems that train operators in gathering human intelligence (HUMINT).

While a plethora of courses and computer-based training (CBT) systems have been developed, the greatest attention is rightly given to those personnel who will spend the most time engaging local communities when down range. In the US Army few spend more time doing this than members of civil affairs battalions.

The 81st Civil Affairs Battalion recently underwent an academic course at Fort Hood, Texas, focused on stability, governance, and development issues in support of Operation 'Enduring Freedom'. The battalion is set to deploy across all regional commands and geographical areas in Afghanistan to provide civil affairs support to combatant commanders. These civil affairs soldiers will be the advisors on civil considerations including humanitarian assistance, populace, and resource control, as well as foreign nation assistance.

Tom Kinton, an instructor for the army's civil affairs course and former reserve civil affairs officer, told *IHS Jane's* that an

understanding of the culture and people of Afghanistan is key to training and essential if the Civil Affairs soldiers are to be successful in their role.

The three-day course is designed to provide the most recent and apt information possible and make use of Afghan, dual-citizenship, and subject matter experts who have spent significant time in the country. "What we're trying to do is give them the texture of civil affairs on the ground in Afghanistan as opposed to the structure, and to do that we bring in Afghan help when available," Kinton explained.

The training is given to all ranks – from lieutenant colonel and down – and is typically delivered towards the end of a pre-deployment training schedule in order for the information to stay fresh in the mind of the students.

Kinton said that personnel now know how to undertake civil affairs work as per military doctrine. "This is not business as usual, in the past if we were mobilising to go through

pre-deployment training we would work with role players, learn some Pashtu and to drink tea with our right hand, etc; that's in the past and we've got to move on."

The course includes tribal dynamics, but is now focused on the provincial level and up. Kinton said that it is designed to give the soldiers an understanding of the Afghan ministries and how they function, with around one third of the programme dedicated to this. The course does not feature any CBT, instead it makes extensive use of role play and examines a range of 'what if' scenarios – such as how to improve education – with different groups representing the views of stakeholders in Afghanistan.

"We want them to come away with a deeper knowledge and understanding of how Afghans work inside their government, not so much how ISAF [International Security Assistance Force], US soldiers, and contractors work with Afghans: we've passed



British soldiers conduct a mock Shura during a training event. Role playing like this is seen as essential if soldiers are to be prepared for operating with indigenous communities.



that ... we really want to get them away from the tactical level, and their bottom level of operating will be the operational level and above," he said.

Intelligence operators are another group within the military community that is required to spend a great deal of time with the local population, especially those involved with HUMINT tasks. One component of the US Army's Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) is the Human Intelligence Control Cell (HCC).

The HCC provides sustainment training for HUMINT and Counter Intelligence collectors in an immersive, virtual training environment including free-flowing interaction with avatars. It is designed to enable soldiers to refine their skills in tactical questioning, source operations, interrogations, screenings, and the use of an interpreter. Avatars speak in targeted foreign languages and behave in a culturally appropriate manner for the context of the scenario.

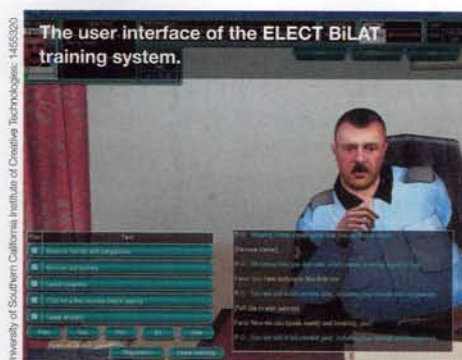
### IEWTPT system

The HCC allows the collector to gather intelligence information from the avatar while an instructor monitors the student's performance. At the end of the tactical questioning training event, the collector reviews after-action statistics as well as feedback from the instructor. The HCC primarily provides proficiency training for tactical HUMINT collectors and Company Intelligence Support Teams.

Project director for IEWTPT, Don Stewart, told *IHS Jane's* that the system can trace its origins to the early 1990s when the US Army determined that there was a training gap in this area and a material solution was needed. The system became a programme of record in 2001.

IEWTPT was developed by General Dynamics C4 systems (formerly Motorola) and utilises commercial off-the-shelf components; it consists of three laptop PCs and a high-definition (HD) TV. The system is built on Crytek's CryENGINE 3 game development package and originally had a projection screen, but this was replaced with the HD TV in order to provide greater immersion, Stewart said.

The target training audience is junior soldiers beneath the rank of sergeant and is carried out at home stations where the soldiers are put through tactical questioning scenarios. "The student works at a laptop and has a dossier brief and pre-scenario information, and he'll have to do his homework on the intelligence that's already been provided,



background information, any research items, and what his training objectives are for that particular mission ... that soldier will then develop his questioning approach and start into the training, and if he's really sharp it could last anywhere from 15 to 20 minutes, or take an hour to unlock the information [required], it just depends on the level of experience. We're really designed to give the junior soldier the experience they need before they go to a live-training event, and obviously the culminating event is when they deploy," Stewart explained.

At present around 30 different training scenarios are provided across nine different areas: walk-ins – a person who voluntarily contacts a US soldier or facility in order to provide information of significant value; COIN – a debriefing with the question plan emphasising on counter-insurgency activities; liaison – meetings to co-ordinate activities and exchange information with the host country and allied military forces, and civilian agencies and NGOs; interrogation – the systematic effort to procure information in order to answer specific collection requirements by direct and indirect questioning techniques of a person who is in custody; screenings – the process of identifying and assessing the areas of knowledge, co-operation, and possible approach techniques for an individual who has information of intelligence value; counter-

intelligence subject interview – the interview of a subject of a counter-intelligence investigation; counter-intelligence walk-in – an individual who seeks out US Army Intelligence to volunteer information which is believed to be of counter-intelligence value; friendly forces debrief – the systematic debriefing of US forces to answer collection requirements; and source operations – those directed towards establishing human sources who have agreed to meet and co-operate with them.

Stewart said that despite the range of scenarios available there is demand for more: "One cry from the field that we've gotten from soldiers is the need for more scenarios ... what's gone to the top of the list, however, is the development of a scripting tool: where the soldiers that have the systems out at the training sites don't have to be computer engineers to change the script. So we're building a simple, hands-on user interface that the soldiers can use to change or make their own scenarios, because at every site there are different levels of expertise."

The system is upgraded and updated by pulling in feedback and information from the US Army Intelligence Center at Fort Huachuca, Arizona, as well as feedback from theatre.

While soldiers can interact directly with the avatars if they have the necessary language skills, an interpreter is also used to replicate the situation down range: "We use an interpreter in a lot of our scenarios to get the soldiers used to the time delay, and then the soldier has to manage that relationship between the interviewee and the interpreter. We've got some scenarios where the interpreter has an ulterior motive and the soldiers have to sort through all of that and figure out that the source is the good guy, and it's the interpreter that's the real cause of your problems."

At present the system can only interact directly through modern standard Arabic or Korean. There have been calls to incorporate other languages, including Pashtu and Dari, but this has been deemed cost prohibitive and not essential due to the virtual translation function.

The trainee engages in a free flowing conversation with the avatar, which is converted to text using speech recognition software, the virtual interpreter then translates the statement to the avatar. The artificial intelligence/natural language understanding component then analyses the statement and determines a response, which is outputted from the avatar. Finally the virtual interpreter translates the response to English and relays it to the trainee.



The system is also able to track how the student developed the conversation and the line of questioning, for example if they developed a rapport before questioning the avatar.

While a number of improvements to the simulator are desired, Stewart points to the ability to move the training to a 'cloud' as one that could prove to be particularly beneficial: "If I can get this to the 'cloud', you can have web access. A lot of the issues with hardware and fielding requirements go away if we can get this capability residing on a server, and that's something we're really interested in."

The IEWTPT is first and foremost an individual skills trainer, however, it has demonstrated utility in joined-up training Stewart said, highlighting an instance where a field artillery unit undergoing training in the Virtual Battlespace 2 (VBS2) environment blended their scenario with the IEWTPT; this saw the unit's commander taken out of the VBS2 environment and tasked with undertaking a key leader engagement (KLE) in a co-located IEWTPT. The unit was able to use its experience here to develop a generic tactical questioning plan that could be employed down range.

## **ELECT BiLAT system**

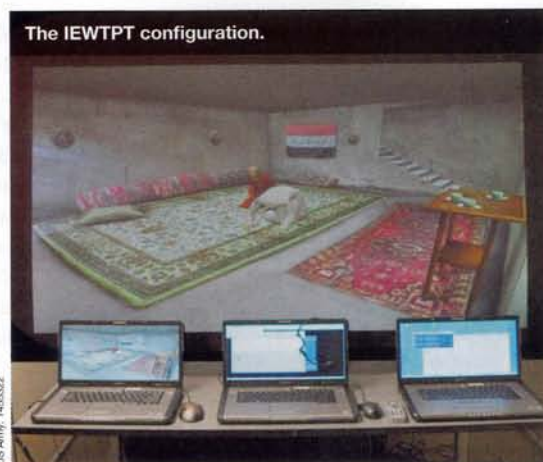
While the IEWTPT is a CBT for intelligence collection, another system – ELECT BiLAT – has been developed as a virtual negotiations trainer to prepare personnel for KLEs.

ELECT BiLAT was developed by the University of Southern California's Institute for Creative Technology (ICT), which has been involved in the programme since 2004. "Through our connections and talking to folks in uniform and their trainers, we started to hear more and more about the issues they were facing in their interactions with locals ... back in 2004 this wasn't commonly understood and we had a lot of trouble in finding folks who could tell us information about this, at least within the army institution," explained Julia Kim, a project director at the ICT.

The system takes the form of an immersive gaming environment for training skills in conducting meetings and negotiations, with the player taking on the role of an officer rebuilding a town and conducting a series of engagements and negotiations. Students must establish their own relationships with these characters and be sensitive to their cultural conventions. Any misstep could set

the negotiations back or end them completely. Students must also apply sound negotiation strategies, such as finding win-win solutions and properly preparing prior to the meeting.

The first version of the system was delivered in 2006 and was designed to run on laptops and PCs rather than large training systems. Kim explained that they decided to leverage commercial gaming technology in the design of the system. "We chose to use the Unreal commercial game engine, which is what the



army was moving towards at the time and we were familiar with. We took out all of the content and replaced it with ours ... we did some modifications to integrate research technologies that we have developed to help drive some of the learning points," she added that an intelligent tutoring module was bolted on, which tracks student activity and provides an overview and feedback of performance.

Interaction with the avatar is done through menu selections. "It's a deterministic model in that if you take a series of actions there are only a certain number of outcomes available. The way that is calculated is in a three-by-three matrix, and depends on what you've done before in the game. [For example] If you've been led down a path, that will affect the response of the characters. There are better or worse options – we also have a notion of where we want the story to go, we try to go for specific learning issues, for example, at some point we want them to deal with someone who is confrontational," Kim explained. A certain level of chance is also built in and there can be different outcomes even if the same actions are taken in the replay of a scenario.

In developing the system, Kim said that the ICT focused on incorporating the general

principles of negotiation with some of the specific cultural issues of Iraq embedded within the characters.

While ELECT BiLAT was developed to represent an Iraq-based scenario, the skills developed are transferable, Kim said, and applicable across many societies and cultures.

## **Training preparation**

Prior to commencing a training scenario students are given a range of materials, such as newspapers, intelligence reports, and other background material that need to be assessed before the meeting commences, explained Ed Rykard, Chief of Tactical Gaming at the Joint Multinational Simulation Center (part of the Joint Multinational Training Command) in Grafenwoehr, Germany. "In order for you to conduct a successful meeting in this programme, it takes you three to four hours with pen and paper in hand taking notes as you filter through all of the information, and then you go and conduct the meet. If you spend 20 minutes [preparing] and think you're going to go in and talk to the avatar it's possible that you will be asked to leave or the avatar will get up and walk out on you. So you have to do your homework

before you try to conduct an engagement," Rykard said, adding: "That's what the programme does, it makes you think about the questions that you're going to ask before you get there and teaches you how to prepare and get your thoughts in order."

While training with the system is open to all personnel, Rykard said that soldiers from civil affairs units have been frequent users and that "when they use it they think it was built specifically for them because it caters for all of the things that they actually do in the real world".

Kim said that the ICT had plans to develop a MULTILAT version of the system to meet the Shura format common to negotiations in Afghanistan, and while this has not yet gone ahead it may be revisited in the future.

While the civil affairs course and CBT systems may focus on specific skills and roles, the US Army goes to great lengths to add texture to exercises and replicate the multiple aspects of the operating environment. Rather than solely focusing on security issues and kinetic action, these cover a variety of issues, and encompass cultural, economic, and governance factors among others. The granularity ranges from simply providing the appropriate dress



for the opposing force and civilians to complex scripting.

"Understanding the sources of instability informs all kind of decisions: governance decisions, military decisions, all of those things. So that's something that we recognise as critical to this training, it's probably something that we've needed and haven't been doing, and we're now just really figuring this out," Colonel John Jones, explained to *IHS Jane's*.

Col Jones is the senior intelligence officer at the US Army's Joint Multinational Readiness Center in Hohenfels, Germany, and one of the orchestrators of exercises at the training centre. Speaking during the 173rd Airborne Brigade Combat Team's (ABCT's) mission rehearsal exercise (MRE) in March, Col Jones said that the US Army is working hard to capture these variables down range, and utilises the District Stability Framework (DSF) – a US State Department-developed management framework that utilises a range of situational awareness and planning tools to inform stability programming – to help achieve this. "There's a constant assessment to try to determine what are the friction points that need to be addressed, and what they're finding is that you can't just throw money at a problem, [for example] if you build a school and don't understand what the population needs ... there's no point trying to build a school if the kids have to work, you really have to understand the OE [operating environment], not just throw money at a problem," he added.

### Hybrid scenarios

Col Jones believes that the DSF will have application beyond the current counter-insurgency fight and will be relevant for the future hybrid warfare scenarios that the army is now recognising, although they are yet to test its effectiveness in combined arms manoeuvre training.

In designing the 173rd ABCT's MRE Col Jones said that they were conscious not to provide the force with too much information on the OE, in fact they were given less than would be expected of a unit undertaking a Relief in Place/Transfer of Authority. Only basic information on the local populous, governance issues, and more was provided in order to encourage the forces to interact with the local communities and develop their influence operations skills and how to engage with the community.

The exercise also incorporated incidents that would likely instigate blowback from civilians, typical of what might occur if soldiers are not aware of cultural sensitivities or if incidents of civilian casualties have occurred, for example.

The physical environment in which the training takes place is also designed to be as representative of theatre as possible, as are the civilian role players. The towns and villages are structured as they would be in theatre and the locals wear appropriate



The training environment for pre-deployment exercises is constructed to closely represent the operating environment in theatre.

clothing and do not speak English, meaning that interactions – such as KLEs – have to be conducted through an interpreter, thus replicating all of the difficulties that this brings.

The US Marine Corps (USMC) has sought to integrate virtual systems within a live-training environment at Camp Pendleton, California, where the Combat Hunter Action and Observation Simulation (CHAOS) is installed. Developed by the ICT, CHAOS was part of the ICT's work on the Future Immersive Training Environment Joint Capabilities Technology Demonstration and its goal of developing next-generation training for infantry small units.

CHAOS represents a village in Helmand province, Afghanistan – where USMC units are deployed – and tasks personnel with locating and engaging avatars who spoke Pashtu and could respond to the marines via an interpreter. While the squad in the scenario had specific mission goals, such as to obtain information from a villager, the scenario could be taken in a number of directions as it was free play.

CHAOS was developed after ELECT BiLAT and incorporated some of the lessons learned from the earlier system. Kim explained that

while CHAOS was free from the constraints of operating on small PCs there were downsides to the new training environment: "We lost the constraint of having to worry about making it run on a single computer, but we gained the constraint of having to operate in a marine live-fire training facility where they are using Simunitions, and where it is dirty and dusty."

ELECT BiLAT and CHAOS are two of a host of CBT systems designed to prepare personnel for operating in different countries. Culture Shock: Afghanistan, for example, is designed for personnel of all ranks and places players in the shoes of the people they will be interacting with. Over a seven-week period students spend 15 minutes each day organising their village's workforce, participating in an economy, and making decisions that will impact upon their own and neighbouring communities, they then see the consequences of their decisions.

Much like ELECT BiLAT, the Virtual Cultural Awareness Trainer is a story-driven system and focuses on working with interpreters, extending culturally appropriate greetings, building rapport with local populations, and learning basic language skills; courses are offered for Afghanistan, the Horn of Africa, Latin America, and north Africa.

While some of the systems recently developed have targeted Afghanistan and Iraq, Kim believes that providing general cultural awareness skills is more important than drilling down into the specifics of each area, as elements are often universal and can be applied in different societies around the world.

To what extent cultural and human terrain awareness is incorporated into wider training will depend upon a number of factors; not least doctrine and the military's projections for what the nature of warfare will be in the future. It may also depend greatly on how the training is packaged and 'sold' to the higher levels of command, as Rykard suggests: "When you say game-based to folks, the younger generation gravitate right to it, but the older population, they'll say 'Game-based, okay, whatever', because to them when you say game they think of video games, they don't understand that these days it's virtual training ... it's generational, there's a generation out there right now that to them this is great stuff. The young lieutenants and captains who use this on a religious basis, as they go through the ranks they'll pass this down." ■