



BGE ACCOMPLISHMENTS: TRAINING AND EDUCATION WORK GROUP

By Dr. Troy Messer

The United States Army Engineer School, Directorate of Training and Leader Development (DOTLD) and Department of Instruction (DOI) are leaning hard into the flywheel. Here at the School, the DOTLD team is employing and empowering the right people to develop and deliver *Building Great Engineers* (BGE) initiatives. Recent actions include expanding the engineering body of knowledge with academia and partners using joint, interagency, intergovernmental, and multinational (JIIM) training events; integrating gaming and technology into the classroom; and expanding leader development and education (LDE) initiatives that include degree program opportunities and joint engineer training partnerships with other Services.

Body of Knowledge

DOI invited Dr. Brock Barry, who will soon be a faculty member of the United States Military Academy (USMA) and Professor in the Department of Mechanical and Civil Engineering, to the Engineer School in February 2009 for an in-depth orientation of the engineer enlisted training program. The briefings highlighted vertical, horizontal, general, and combat engineering at Brown Hall and the Million Dollar Hole training sites. Dr. Barry's expertise in engineering education was turned toward assessing engineer officer education, covering the Basic Officer Leader Course (BOLC) III, the 210A Warrant Officer Basic Course

(WOBC), and the Engineer Captains Career Course (ECCC). On the surface, this may not seem to have a high payoff for training and education, but when you consider that Dr. Barry is one of the country's first doctors of philosophy in engineering education, this takes on a whole new meaning. He will serve as a direct link between USMA and the Engineer School in improving the cradle-to-grave education lifecycle of engineers. DOTLD is participating with USMA's Master Teacher Certification program and looking for opportunities to partner with the USMA Engineering Department, starting with Dr. Barry speaking at the 2009 ENFORCE training and education workshop.

JIIM Training Events

We are seeking every opportunity to expand engineer officer curriculums into the JIIM context. Guest speakers from the International Committee of the Red Cross (ICRC), the United States Agency for International Development (USAID), and State Emergency Management Agency provide program overviews to ECCC students in their general engineering module. And recently, selected ECCC small group instructors (SGIs) and ECCC students were given the opportunity to attend the Joint Engineer Operations Course (JEOC).

Mr. Andrew Bell, military delegate of the ICRC, visited Fort Leonard Wood to address the 01-09 ECCC class on

24 February 2009. The subject was the role of nongovernmental organizations (NGOs) in conflict zones. He placed the ICRC in context with the thousands of other NGOs operating worldwide and further defined the mission, objectives, and activities in current conflict locations (such as Iraq, Afghanistan, and the Horn of Africa). His defining the role of ICRC, the American Red Cross, and Red Crescent Societies engendered a high level of interest and interaction from the students.

The ECCC hosted Structural Assessment Visual Evaluation (SAVE) training on 12 February 2009 to increase technical competency and partner with academia (Missouri University of Science and Technology) and federal, state, and local governments. The training, sponsored by the Fort Leonard Wood Chapter, Society of American Military Engineers (SAME), brought the Missouri State Emergency Management Agency (SEMA) SAVE coalition to Fort Leonard Wood. The training taught 64 ECCC students, 2 ECCC cadre, a Directorate of Contracting employee from Fort Leonard Wood, and 6 state and local emergency management personnel in preparation for assessing building structures affected by earthquakes, tornadoes, floods, or natural disasters that cause structural damages for both domestic and theater applications. The student comments were best reflected in this one comment: "It was an awesome experience, and I can speak for many of my peers when I say that the information we've drawn from just this one event will pay huge dividends in our future deployments. The application to our work in Iraq and Afghanistan is obvious. Thanks so much!" All students were offered the opportunity to obtain certification along with their completion-of-training certificate.

DOI is integrating as many curriculum advances as it can. Some of the advances include sending ECCC students and SGIs to JEOP and piloting contracting officer's representative (COR) training and environmental training and education. Two ECCC SGIs and three students will have the opportunity to attend the JEOP hosted at Fort Leonard Wood on 13 – 17 April 2009. The JEOP is just one training opportunity that ECCC and BOLC students can take advantage of if they test out of certain modules in general engineering and basic demolitions.

The United States Army Training and Doctrine Command (TRADOC); Human Resources Command (HRC); and the Department of the Army Operations and Plans (G3), Civil Affairs (G5), and Information Operations Staff Officer (G7) approved DOI to pilot three days of COR training for the ECCC, Engineer BOLC, WOBC, 21H Basic Noncommissioned Officer Course (BNCOC) and Advanced Noncommissioned Officer Course (ANCOC), and 21N BNCOC and ANCOC. The 20 hours include the minimum essential training requirement to become a COR according to the Federal Acquisition Regulation (FAR) and TRADOC Regulation 5-14, *Acquisition Management and Oversight*, dated January 2009. DOI has trained a total of 328 students since June 2008 (86 BOLC, 35 WOBC, 204 ECCC, 57 21H BNCOC and ANCOC, and 11 21N ANCOC students) in the following subject areas (located at <http://www.atrrs.army.mil/channels/aitas>):

- CLC 106 – Contracting Officer Representative With a Mission Focus (minimum 8-hour requirement)
- CLC 011 – Contracting for the Rest of Us
- CLM 024 – Contracting Overview
- CLM 003 – Ethics Training for Acquisition, Technology, and Logistics (AT&L) Workforce

DOI and the Directorate of Environmental Integration (DEI), in response to surveys of 125 ECCC students and field commander comments, assessed environmental compliance in the curriculums. As a result of the assessment, DOI and DEI are partnering to gain approval for a pilot, three days of environmental training and education for the Engineer BOLC and four days for the ECCC and WOBC. In order for U.S. troops to be out of Iraq by 2012, Multinational Corps–Iraq (MNC–I) C7 (senior staff engineer in Iraq) indicates this training gap must be addressed. Current environmental understanding needed to support the Army Force Generation (ARFORGEN) process is inadequate. The pilots will address training and education in designing, building, and maintaining solid waste and wastewater systems and conducting environmental baseline surveys.

Gaming and Technology

Gaming and technology in the classroom are becoming the new enablers to overcome instructor personnel shortages and the constraint to grow engineer courses. DOI has implemented several new technology initiatives in the following BOLC areas:

- General Engineering Division – Use of the Turning Point Classroom Response System (CRS)
- Combat Engineering Division – DARWARS Ambush! and Virtual Battle Space 2 (VBS2)TM Route Clearance Gaming Software
- Officer Training Development Division (OTDD) – Implementing Gameshow Pro for classroom learning

DOTLD is also seeking funding for laptop computers in the classroom. The integration of these technologies will create challenging student-centered learning and collaboration. Current technology trends in civilian and military academia, such as USMA, Fort Knox Armor School Maneuver Captains Career Course, Armor BOLC, and Virginia Technical College of Engineering have all adopted the same or equal classroom technologies (to include laptops) as learning multipliers, a best practice by any standard.

Degree Program Opportunities

Currently the Engineer School participates with several universities with branches at Fort Leonard Wood to provide cooperative credit, master's degree programs such as engineering management, civil engineering, geological engineering, and public and business administration.

From 1995 until the present, 427 students have graduated with a degree in engineering management, 319 in civil engineering, and 189 in geological engineering. Currently, 15 students are enrolled in a degree program in engineering management, 1 in civil engineering, and 29 in geological engineering. While the opportunity is now only provided to ECCC graduates, Engineer School cadre and the Fort Leonard Wood Noncommissioned Officer (NCO) Academy are forming an exploration committee to conduct a limited pilot of this program with NCOs and junior officers (BOLC, WOES, 21B BNCOC and ANCOC, 21H BNCOC and ANCOC, and 21N BNCOC and ANCOC graduates).

Joint Engineer Training Partnerships

DOI is actively collaborating with the Air Force Institute of Technology (AFIT) to conduct a pilot exchange of program material and course seats. It has been discussed as an initial way ahead that two to five ECCC students each quarter could attend AFIT's WMGT 585, Contingency Engineer Command Course, depending on AFIT course fill, and continue to discuss the possibility of seats in WMGT 570, Civil Engineer Superintendent Course, and WMGT 436, Operations Course, in order to gain a joint context between the two Service engineer schools. Additionally, DOI would provide Army engineer lesson(s) at a 101 level to various AFIT leader courses focusing on types of operations orders, fragmentary orders, and warning orders; mobility; countermobility; assured mobility; and counterinsurgency. This partnership would allow AFIT to attend video teleconferences (VTCs) to gain awareness of current Army engineer theater operation events through monthly and quarterly secure VTCs, such as Multinational Coalition Forces–Iraq, Fusion Cell, Worldwide Engineer VTC, and the Engineer Training Support Network (ETSN).

Summary

DOI, in support of the *Building Great Engineers* Campaign Plan, is making deliberate and positive progress. We continue to engage in new initiatives such as the body of knowledge, technology in the classrooms, and JIIM partnerships. We encourage positive and negative constructive feedback from the field so that we can gauge our true progress. 

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