Rethinking How We Train

By Captain Nils N. French

When organizations are faced with an overwhelming quantity of *what* must be done, sometimes there's little time to consider *how* it must be done. This article focuses on the *how*, suggesting new approaches to the way future engineer leaders are trained. The article doesn't imply that these methods aren't currently being applied, and the author acknowledges having already witnessed their application. Chances are, however, that some of the ideas are new and will thus be of value. It is also realized that there may be valid reasons why the methods cannot be applied—whether related to logistics or the aims of training in general. Lastly, these ideas are not original to the author, but a compendium of the suggestions of others.

Training for the 21st Century

Yale University graduates Claudia Wallis and Sonja Steptoe coauthored a *TIME* magazine article titled "How to Bring Our Schools Out of the 20th Century."[1] The respected journalistic researchers in the field of education and learning believe that a chasm exists between most schools and the real world. The outside world has changed, but inside the schools of America much is as it was 100 years ago (desks, pens, notes, and students listening to teachers for hours). The authors suggest that students should be taught differently to develop "21st century skills"—broadly grouped into teamwork, information, and thinking skills.

Teamwork Skills

Most innovations today are made by groups, not individuals, increasing the importance of teamwork skills. Wallis and Steptoe draw this from the experience of former Lockheed Martin CEO Norman Augustine, who notes that there is a need to emphasize communication skills, the ability to work in teams, and the ability to work with different cultures. Students must collaborate and solve problems in small groups and apply learning to real-world scenarios (which results in better learning than the "chalk-and-talk" approach). The pertinence to the military is obvious; leaders must solve problems in group settings from corps-level staffs down to platoon and squad levels. Much of our training is already approached in this way.

Information Skills

These skills comprise the next essential skill set for the 21st century. Karen Bruett, Director of Education of the Partnership for 21st Century Skills, a leading advocacy group that draws from the expertise of educators and business leaders, notes that the 21st century has brought an overflow of information and a proliferation of the media that forces us to separate the reliable from the unreliable. Students must rapidly process and learn to manage, interpret, validate, and act on new information. The ability to judge objectivity and carefully assess *what* is known and *how* it is known is becoming critical. We notice the same overflow of information and resultant need for judgment in our tactical operations centers and headquarters as the number of sensors and sources on the battlefield increase steadily with the pace of technology. This increase in the amount of information available also means that information that was previously memorized is now readily available electronically, enabling a shift from memorization to a more solid understanding of the fundamentals that permit the understanding of complex concepts.

Thinking Skills

Wallis and Steptoe indicate that the approach to thinking skills must change as well. They note that the modern world has put a premium on creativity and innovation, and students must learn to see patterns where other people only see chaos—similar to the application to pattern analysis in the improvised explosive device (IED) fight. In essence, the ability to solve abstract problems is vital. To train in this capacity, it is essential that the curriculum dwell on key concepts that are taught in depth and in careful sequence while avoiding a deluge of forgettable details as is "so often served in U.S. classrooms." Students must develop portable skills: critical thinking, cross-discipline thinking, the ability to make connections between ideas, and the ability to keep learning.

Training for the Contemporary Operating Environment

A monograph titled "Teaching Maneuver Warfare"[2] by retired United States Marine Corps Colonel Michael Duncan Wyly, a former Vice President of the Marine Corps University, suggests that styles of fighting have changed and styles of teaching must therefore change as well. Old doctrine called for centrally controlled, closely orchestrated, slow-moving battles, and training was done in much the same way. Now we face a fast-paced, loosely controlled, decentralized fight where we must be responsive to a changing situation. How we train the force must shift accordingly. The teaching style must adapt to become less controlled and highly responsive.

Wyly proposes that the central focus in training should be to equip future leaders to make decisions. This is one of the rare qualities sought in combat leaders, since the ability to make decisions determines mission success in the contemporary operating environment (COE). Wyly stresses that this ability must be focused on more than content, methodology, or procedures.

To accomplish this, several methods are given. Historical and hypothetical case studies, graded classroom discussion of assigned reading, and terrain walks are suggested. Wyly notes that instructors can give students exercises with varying situations where limited knowledge of the terrain and the enemy must be considered in a fixed amount of time and students then clearly express their decided intent in a brief order. Definitions, procedures, and weapons capabilities must be narrowed down to the essential and put into a useful printed form so they can be learned through hands-on experience. The focus of the instructor must be on the decisive action that the COE demands.

Training for Adult Students

Special considerations must be made for adult students. The National Victim Assistance Agency (NVAA), which manages a comprehensive nationwide curriculum for adult students, highlights these considerations in a publication titled "The Ultimate Adult Educator."[3] Their suggestions are specific and based on the NVAA's extensive experience and research in the field of adult learning.

When teaching adults, the key consideration is that they must be in charge of their own learning. Instructors do not have the ability to implant ideas and skills in adult students' minds. They can only suggest and guide them, and their main role is thus managing the process through which the adult students learn, encouraging them to use their own judgment and decision-making capabilities. Adults are more likely to accept and absorb learning if they arrive at the idea themselves. Knowing this, the practice of giving adult students information to memorize must be discarded and activities that allow students to generate concepts and ideas must be used instead.

Furthermore, adult students respond better when material is presented through a variety of instructional methods, as opposed to a single, repeated style (Microsoft PowerPoint® is a possible example). As with younger students, adults learn best by doing. Different from younger students, adults are best motivated to learn *when they need to know,* and instructors must help them ask themselves why they need the information, how they can use it, and how they will benefit from it. These unique considerations are important, although they are not necessarily obvious, and their application is vital when dealing with adult students.

Conclusion

Several interesting points have been raised during this study. The first common thread that emerges is the need to focus on critical thinking and decision making. It is clear that this should be learned through application to scenarios in a team setting. Furthermore, there is a pronounced requirement to shift away from both memorization and tightly controlled, centralized instruction. Research suggests that students should be encouraged to take charge of their own learning as opposed to being given everything they need to know by their instructors. Again, much of our training is already conducted in a way that is in line with these suggestions. The difficulty will come in changing the training that is not.

Captain French is a Canadian Army Exchange Instructor assigned to the 554th Engineer Battalion, Directorate of Training and Leader Development, United States Army Engineer School, Fort Leonard Wood, Missouri. He is the primary instructor for Basic Officer Leader Course (BOLC) Phase III Task Force Engineer training and was recently involved in an extensive restructuring of the module that teaches the subject.

Endnotes

[1]Sonja Steptoe and Claudia Wallis, "How to Bring Our Schools Out of the 20th Century," *TIME*, 18 December 2006, pp. 50-56.

[2]Michael Duncan Wyly, "Teaching Maneuver Warfare," in Richard D. Hooker, Jr. (ed.), *Maneuver Warfare: An Anthology,* Presidio Press, Novato, California, 1993, pp. 248-264.

[3]Christine Edmunds, Kip Lowe, Morna Murray, and Anne Seymour, "The Ultimate Adult Educator: Achieving Maximum Adult Learning Through Training and Instruction," June 2002, *<http://www.ojp.usdoj.gov/ovc/assist/educator/welcome.html>*, accessed on 9 January 2007.