1.2   JELC-LITE: Unconventional Instructional Design for Special Operations Training

Gerald "Jay" Gendron
gerald.gendron@gmail.com

Mark Friedman, CKMP
Concurrent Technologies Corporation
friedmam@ctc.com

Abstract. Current special operations staff training is based on the Joint Event Life Cycle (JELC). It addresses operational level tasks in multi-week, live military exercises which are planned over a 12 to 18 month timeframe. As the military experiences changing global mission sets, shorter training events using distributed technologies will increasingly be needed to augment traditional training. JELC-Lite is a new approach for providing relevant training between large scale exercises. This new streamlined, responsive training model uses distributed and virtualized training technologies to establish simulated scenarios. It keeps proficiency levels closer to optimal levels – thereby reducing the performance degradation inherent in periodic training. It can be delivered to military as well as under-reached interagency groups to facilitate agile, repetitive training events. JELC-Lite is described by four phases paralleling the JELC, differing mostly in scope and scale. It has been successfully used with a Theater Special Operations Command and fits well within the current environment of reduced personnel and financial resources.

1.0 INTRODUCTION

Unconventional

The term *unconventional* not only describes a classic mission set of special operations forces – it also describes the manner in which special operations trainers are approaching training development in this time of constrained resources and changing missions. Special operations trainers have begun to use rapidly developed, distance training ways and means to surmount the resource challenges and achieve their mission goals.

As special operations and conventional forces continue to realize the changing global environment – and the resultant revision in their global mission sets – enabling functions like mission support, acquisition, and training should likewise change to keep in step with the needs of the men and women in uniform. From the perspective of joint military training, the revised mission sets will drive a requirement for increases of relatively short training events which augment the traditional joint training currently designed, planned, and delivered by the Joint Staff and military Services.

Personnel constraints are perhaps the most challenging hurdle in training development. Joint military training is inherently a humanistic endeavor. It relies on a very particular and special subset of the profession of arms – the ability to discern training needs of operational, uniformed members and then translate those needs into specific, achievable, and timely training events. These events often include several hundred live players, not to mention the virtual players linked from distributed locations and synthetic forces generated through constructive simulations. People and their specialized training skills continue to serve as the most important element of the joint military training enterprise spread across the globe – the art and science of war. As a support function, they have taken resource cuts in order to bolster operational forces engaged in our nation's wars. Yet the operational forces need even more training than in past years to deal with force surges, increased uncertainty, and changing mission sets.

The complexity of the current and foreseeable defense and security operating environments call for adaptive individuals, leaders, and units at all levels. While acknowledging that these characteristics already exist in the armed forces (to some degree), it is clear that the severity of the challenges imply an urgent need to significantly reinforce and extend them. We have entered a time when the uniformed services must be able to train more efficiently and with greater agility than ever before.

2.0 MILITARY TRAINING DEVELOPMENT ENVIRONMENTS

2.1 Key Terms and Concepts

Each year, the Department of Defense embarks upon a very challenging and broad-reaching joint training mission. Fortunately for our men and women in uniform, the Department continues to perform well in this mission. It has continued to enhance its operational-level training events through new methods and technologies. This paper focuses on training at the *operational level of war* which encompasses the forces supporting the *combatant commanders* around the globe.

From the *Department of Defense Dictionary of Military and Associated Terms* [1], *operational level of war* means "the level of war at which campaigns and major operations are planned, conducted, and sustained to achieve strategic objectives within theaters or other operational areas" ([1], p. 271). From the same source, the term *combatant commander* is defined as the "commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities" ([1], p. 60).

Most often, operational-level training results in the military Services working in concert with the Joint Staff to establish a training environment satisfying the training requirements. These are highly complex events, but the Joint Staff has promulgated policy and instructions in order to maintain effectiveness of the resultant training while striving for efficiencies. A key process in joint training is the Joint Event Life Cycle (JELC). The *Joint Training Manual for the Armed Forces of the United States* [2] defines JELC as:

> A flexible sequential set of processes that can be modified to apply to various levels of joint event intensity. Although, nominally, a 12-18 month undertaking for major collective exercises, the JELC can be utilized for any training event and the planning team needed to accomplish the JELC is directly related to the scale and complexity of the training event itself ([2], p. E-6).

This is a foundational concept of the joint military training system and serves as the primary construct for this paper.

2.2 Joint Event Life Cycle in Military Training Events

Special operations training is not unlike conventional training from a process perspective. In fact, special operations trainers utilize the same JELC principles and timelines. At the operational level, the JELC specifically addresses operational-level tasks and results in exercises which typically last one week, though some are two weeks in duration. These exercises (i.e., training events) prepare thousands of members of the Armed Forces and the Department of Defense for the challenges of fulfilling its national security strategy around the globe. These exercises typically require a 12 to 18 month JELC to design, staff, and build the final event. As a result, most combatant commands have one, or possibly

two, full-scale training events each year. This flows from the personnel and schedule constraints of a Joint Staff required to support all the combatant commands.

2.3 Recent Occurrences Underpinning Change

Continued themes surrounding national security and the Department of Defense include uncertainty and change. In August 2010, Defense Secretary Robert Gates announced his intent for an efficiencies initiative to review the fiscal and personnel levels of the Department. The stated goal was to shift resources – approximately $100 billion – to units and commands more directly supporting the war fighting missions. The shift would come from reductions in command staffs which grew, according to Secretary Gates, during the war years since 2001.

As these efficiency measures have been executed, the Obama Administration has noted the need to go further in an effort to reduce national debt. Efficiencies once focused on a shift of resources has transformed into a call for a reduction in Defense Department budgets by approximately $400 billion through 2023 [3]. Consider the situation highlighted in the introductory comments of this paper:

- changing global missions demanding training support;
- constrained training personnel face increased demand for support; and
- training is an inherently humanistic endeavor.

The Joint Staff has foreseen these future challenges and has supported the development of new training technologies and methods to surmount them. These new technologies have been in immersive learning environments. They have been developed and are hosted on Joint

Knowledge Online for anyone in the Department of Defense to use for their training needs. Immersive learning environments are a step beyond computer based training. Rather than focusing on an individual, the technologies allow small teams to train on staff processes similar to those found at the operational level of war.

3.0 ADAPTING PEOPLE AND PROCESSES

The human aspects of quality training preclude a total solution derived solely from technologies alone. A truly effective training solution requires not only the technologies, but also the right people and processes.

3.1 New Approach: More in Less Time

The JELC-Lite model proposed offers two major benefits which make it ideal to supplement the traditional JELC process: reduced development time for training events, and reduced regression of staff skills.

Traditional joint training events have durations lasting approximately one week. In contrast, collaborative staff planning events have an average duration of four hours when using immersive learning environments. These shorter events allow operational commanders and training officers to increase the frequency of events. Typical outcomes of these four-hour events include: rehearsing existing staff knowledge, expanding the knowledge base from veteran staff to new team members, and building (nurturing) relationships among collaborative teams.

JELC-Lite also reduces the amount of time to develop training events on a per training-hour basis. As noted, the JELC operates over a 12 to 18 month timeframe to design and build a one week training event. This typical situation results in a development-

delivery ratio of 52:1 (52 weeks:40 hours). Experience has shown that JELC-Lite events can be designed and created in approximately 2 weeks. This results in a development-delivery ratio of 20:1 (2 weeks:4 hours). The JELC-Lite performance ratio is 62 percent more efficient as compared to the JELC (i.e. requires 62% less labor to create an hour of team training). This makes JELC-Lite training processes nearly three times quicker than traditional ones.

Joint observer-trainers note staff performance is heightened by its participation in a one-week event on an annual basis; however, the staff performance level steadily declines over the course of the intervening year until the next event. The need for long duration, comprehensive training events using JELC processes will persist, but JELC-Lite provides the opportunity to augment these yearly events with short duration training opportunities. Fortunately, the guidance from the authoritative source on joint training not only allows adaptation of the JELC but also encourages it to "fit the scale and intensity of the training event itself" ([2], p. E-6).

Adapting JELC for JELC-Lite will allow the execution of relevant training to learners, both before and between the large-scale exercises, in order to maintain higher levels of proficiency with greater consistency – avoiding the bathtub effect of decreased performance that often occurs between large-scale events. Not only are staffs more capable, but training events are more beneficial when the regression of staff skills is lessened.

JELC-Lite results in "a lot of a little" – an idea based on the book *The Long Tail: Why the Future of Business Is Selling Less of More* by Chris Anderson. Anderson [4] describes how the Internet revolution has been shaped by a specific nuance that

technology has afforded the learning industry. Learners can now focus on a very narrow and specific topic, instead of having to rely on large, broad, and generalized events. Not disparaging these larger, aggregated training events – but the opportunity to narrowly-focus and train on specific mission essential tasks provides the trainer flexibility to create and deliver many times more training events which are much more easily adaptable to the ever-changing set of requirements in today's uncertain environment.

3.2 Four Phases of Proposed JELC-Lite

Traditional JELC has five defined stages [2]:

- Design
- Planning
- Preparation
- Execution
- Evaluation, Analysis, and Reporting

JELC-Lite has four phases, which closely mirror the standard Joint Event Life Cycle:

- Concept Development
- Plan-Build
- Pre-Execution Preparation
- Execution

The primary differences between JELC and JELC-Lite lay in the scope and scale, with the Lite version being more responsive and agile. It has been expressly designed for use with immersive learning environments capable of rapid training scenario development. The four phases are described below. A guide detailing the JELC-Lite process is being written by the authors to provide training developers and training audiences guidance on employing JELC-Lite in their events.

12

3.2.1 Concept Development

Concept Development has three main purposes: establish expectations, develop initial action items, and finalize the requests for support from customer to training development team. Most important is setting proper expectations – especially when developing training under JELC-Lite. There is a longstanding understanding of traditional JELC processes. Users must appreciate that a rapid development effort will require a different approach to building the event under JELC-Lite.

The focus needs to be on the training audience and their ability to play in the event rather than the technologies used. An example of the checklist used during this phase: the developers facilitate a session wherein customers determine event objectives, identify a geographical location for the scenario, determine the number of hours for event execution, and scope the number of scenario injects the players will have to manage.

3.2.2 Plan-Build

Where JELC typically has four planning conferences, the JELC-Lite Plan-Build Phase is performed only once, focusing on a small target set of objectives. The primary objectives in this phase of JELC-Lite are for the customer to decide on the player roles (how many? how broad?); to define the activities within the event (one planning activity? planning with a fast forward to deployment?); and to storyboard the activities and roles against the desired training injects and synchronize timing. The Plan-Build Phase co-exists with a series of product reviews at 30 percent (review inject products), 70 percent (review overall event flow), and 90 percent (review details and synchronization). Recall that this phase may last only a week, so these reviews help drive the process through the longest portion of development. By leveraging

toolset capabilities like those in the Small Group Scenario Trainer (SGST), visual diagrams can be created, shared, edited, and finalized over web services [5]. Aristotle said it best: *"The soul does not think without a picture."*

3.2.3 Pre-Execution Preparation

Having drafted and constructed the training event, this phase is designed to rehearse the event with the customers to ensure expectations for players, controllers, and role players are satisfied. Pre-Execution Preparation can be accomplished in the JELC-Lite model via simple email and teleconferences. This phase is very important in the distributed, lightweight JELC-Lite model, since face-to-face coordination may not be possible during rapid development. A side benefit is that it reduces loads on personnel and fiscal resources as compared to traditional preparation under JELC.

3.2.4 Execution

Lastly, the Execution Phase includes scenario delivery, a *hotwash* with the training audience, and an internal lessons learned session among the developers. These are very similar to the activities in a traditional JELC process.

4.0 A PROMISING VIEW OF THE FUTURE

JELC-Lite processes have been successfully used at a few combatant commands from 2010 to the present. Three overarching benefits have been observed among training developers and audiences employing JELC-Lite.

4.1 Expand Training Reach and Responsiveness

JELC-Lite supports the philosophy "a lot of a little". This means not only a greater

number of events, but with the correlating effect resulting from more frequent events. Customers can avoid having to wait for the next large-scale exercise to rehearse or train techniques, tactics, and procedures. In fact, now operational commanders can have their staffs go through those experiences as a build up for the large-scale event. Training can become not only more frequent but also more penetrating in developing our human capital. There exists a subtle (yet significant) side benefit to this increased reach – increased responsiveness. Developers and analysts involved with training recognize that the 18 month time spans needed to develop large-scale events are more susceptible to obsolescence due to changes in global environments that alter the mission focus. More frequent event development and training reduces risk in an uncertain operational environment.

4.2 Agile Solution

The responsiveness inherent in reduced JELC-Lite development cycles fosters agility for the training audience. In today's constrained resource environment, there should be a shift in thinking that large and situationally-specific scenarios will be reused in the future to gain economies of scale. Rather, training developers can espouse the benefits of situationally-specific scenarios that are smaller in scope and easier to develop in order to remain agile to training needs – and ultimately cost less.

"The need to learn quickly and adapt in a dynamic environment is seminal for both military and civilian organizations" ([6], p. 165).

The added benefit of this agility is that the trainers are able, and encouraged, to update, revise, and improve the training content between each cycle of delivery. Since there is no end-state to the idea of "better" and "continuous improvement" – JELC-Lite provides the opportunity to

sustain the idea flow. In other words, the shorter cycle time aids the addition of innovation into the training. Without the shortened cycle time for training development, there would simply be less opportunity to achieve this level of innovation.

4.3 Evolutionary Approach

Finally, this new streamlined, responsive, and agile training model called JELC-Lite affords trainers the opportunity to reach under-reached training audiences and allows for agile, repetitive training events to take place where needed. This mimics a popular paradigm found on the Internet in the commercial sector – that being Apple's iTunes delivery capability. Consider the iTunes inventory: it is a huge assortment of media which is instantly available to customers. Meanwhile, the iTunes process is highly repeatable, has very low transactional cost, and offers very efficient management overhead. Thus, the evolutionary adaption of JELC-Lite to augment the JELC could be whimsically called iJELC.

Who are the under-reached and under-served training audiences? There are four levels of penetration when expanding reach to users:

- Active Duty Military Forces;
- Reserve and National Guard Forces;
- Interagency Partners; and
- Multinational Partners.

Among active duty users, consider newly arriving members of a joint, operational staff. A study [7] commissioned in 2008 by the Joint Staff J7's Joint Training and Exercise Division found officers serving on operational-level joint staffs were not performing as well as senior leaders had expected. Reasons for this cited by the study include the facts that these officers were on their first joint tour, their first staff

tour, and their first time working with a diverse workforce such as other military Services and the interagency. Experience with operational joint staffs points to a lack of process-oriented training on staff techniques and skills. Newest members of a combatant command must seek on-the-job training in preparation for the large-scale, annual training exercise. Newly assigned members of combatant commands and the Joint Staff represent an under-served audience during their first four to eight months of time on the staff.

Secondly, consider the Reserve and National Guard forces who volunteer to support active duty units. Most frequently in the special operations community, these groups of warfighters augment the active duty components by deploying on multi-month Joint Special Operations Task Force tours. While they are often able to take long blocks of time from their civilian jobs to support the military mission, they can have difficulty getting additional, smaller blocks of time away from work prior to the deployment to support important training workup events as preparation for the deployment. This results in a less than fully prepared group of staff members who could benefit from collaborative staff training using distance training tools and techniques prior to deployment.

Beyond the uniformed members, there has been a notable increase in cooperation, engagement, and mission execution among the entire interagency including Department of Defense, Department of State, law enforcement agencies, and more than a dozen other governmental agencies. One persistent problem cited by non-defense members of the interagency is the inability to train with uniformed staff members. There are just so much fewer personnel in non-defense agencies and this leads to difficulties to engage in training with the military – especially when travel is required. The Department of Defense has many more

members than the rest of the interagency, but uniformed military members often fail to realize this disparity in personnel resourcing. Again, these other members of the interagency could benefit from collaborative staff training using distance training tools and techniques. It would increase interaction among key mission partners.

Finally, the military supports the Department of State diplomatic mission by participating in Security Assistance activities like training and educating our multinational partners. A key problem is a lack of persistence in contact due to costs and distance challenges of working with multinational partners. Additionally, not all our partners are supported at similar levels. This is to be expected. However, when it comes time for execution it is not desirable to expect less of a less-served partner. Fiscal and personnel constraints make it difficult, if not impossible, for the Department of Defense trainers to travel and support these multinational partners frequently enough to maintain the performance levels achieved after the live security assistance training. Distance training and a JELC-Lite process may bring recurring opportunities to smaller, lesser-served – but nonetheless important – partners.

5.0 CONCLUSION

Today's operational-level training events are designed, constructed, and executed under a well-established process called the Joint Event Life Cycle (JELC). Special operations training events use the JELC as well. The JELC typically requires 12 to 18 months to plan a one week joint training event. However, a changing landscape in national security, and tightening constraints on critical resources, such as people and money, requires the Department of Defense to reconsider guidance in CJSCM 3500.03C stating it is appropriate to adapt the JELC to

the scale and complexity of the desired event.

As the military realizes changing global mission sets, shorter training events using distributed technologies will increasingly augment traditional training. JELC-Lite is a new approach to provide relevant training between large scale exercises. This paper articulates the four phases the authors have defined for JELC-Lite and the benefits JELC-Lite has for operational commands. Overall, a greater number of short training events points to a future where higher performance levels are maintained between large-scale training events. Maintaining more optimal proficiency levels reduces the performance degradation inherent in periodic training. This new streamlined, responsive training model uses distributed and virtualized training technologies to establish simulated scenarios. It can be delivered to military as well as under-reached interagency groups to facilitate agile, repetitive training events.

6.0 REFERENCES

[1] Department of Defense. (2011, May 15). *Department of defense dictionary of military and associated terms* (JP 1-02). Washington, DC.

[2] Department of Defense. (2011, January 15). J*oint training manual for the armed forces of the united states* (CJCSM 3500.03C). Washington, DC.

[3] Winter, D.C. (2011, May 31). *Defense planning for the twenty-first century: Lessons from the twentieth* (Report of the Heritage Foundation). Retrieved from http://www.heritage.org/research/reports/2011/05/defense-planning-for-the-twenty-first-century-lessons-from-the-twentieth.

[4] Anderson, C. (2006, July 11). *The long tail: Why the future of business is selling less of more*. New York, NY: Hyperion.

[5] Joint Knowledge Development & Distribution Capability. (2009, August 31). *Small group scenario trainer (SGST): Users guide*. Suffolk, VA.

[6] Mains, S., & Ariely, G. A. (2011). Learning while fighting: Operational knowledge management that makes a difference. *PRISM, 2* (3).165-176.

[7] United States Special Operations Command. (2010, October). *US special operations command joint staff officer site visit*. Tampa, FL.