

Assessing Training Transformation: Moving from Concept to Reality

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ABSTRACT

With the completion in 2005 of the first Block Assessment of Training Transformation (T2), we can point to a successful beginning on the road to transforming joint training - and the larger goal of functioning as a key enabler for force transformation in DoD. The paper will present the assessment process and results, which are not only valuable for the impact on management of joint training but describe a methodology for devising policy metrics.

The Joint Assessment and Enabling Capability (JAEC) in OSD assembled a team of operations research analysts and training experts that developed four areas of assessment: (1) evaluation of program accomplishments against goals in the T2 Implementation Plan; (2) review of key initiatives that the T2 components have undertaken; (3) feedback from stakeholders; and (4) evaluation against independent assessment metrics identified by the study team.

The Block Assessment process and results illuminated the path for future assessments by defining program and management recommendations. The paper will describe our process for metric development, data gathering, and analysis. The final section will describe how we implemented one of the recommendations from the assessment: a persistent assessment framework to synchronize assessment activities at T2-related organizations, including identifying the metrics and training events being assessed.

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ASSESSMENT AS A FUNDAMENTAL ELEMENT OF TRAINING TRANSFORMATION

In 2005 the Joint Assessment and Enabling Capability (JAEC), an office within the Deputy Under Secretary of Defense (Readiness) organization, completed the first “Block Assessment” of the Department of Defense Training Transformation program. This paper will discuss the process and results of the 2005 Block Assessment.

Training Transformation (T2) is a key enabler for force transformation. The Block Assessment is the primary mechanism for providing feedback to T2 leadership on how well we’re meeting the goal of Training Transformation – ensuring that forces are better trained for joint military operations now and in the future. The Block Assessment indicates the impact of exercises, courses, technologies, processes, and other training activities so that decision-makers can choose the best ways to expend resources to contribute to improved operational effectiveness. With the 2005 Block Assessment complete, the analytical team has begun the daunting and perilous task of defining the Block Assessment for 2007.

Block Assessment Background and Organization

The T2 Program has three components:

- The Joint National Training Capability (JNTC) focuses on collective training;
- The Joint Knowledge Development and Distribution Capability (JKDDC) focuses on individual training;
- JAEC is responsible for assessing progress and formulating possible improvements to the Program. (JAEC’s mission also has an *enabling* component realized through personnel (*e.g.*, funding Joint Training System Specialists located at Combatant Commands) and systems (*e.g.*, consultation on implementation of the Joint Training System and Defense Readiness Reporting System) which will not be discussed here.)

These capabilities are designed to provide tools and processes that support joint training, and to prepare

individuals, units and staffs for the conduct of joint operations.

Within this organizational structure, several realities shaped the 2005 Block Assessment. Among them were a prioritization on ensuring CONUS-based forces were ready for deployment to ongoing Global War on Terror (GWOT) operations. This sharpened the focus from “ensuring forces are better trained for Joint military operations” to specific concern for manning Joint Task Force Headquarters, which have become lynchpins in conducting operations in Afghanistan, Iraq, and the Horn of Africa – all key locales in the GWOT.

Another shaping reality was the realization that the 2005 assessment would be a starting point, for which supporting processes, metrics, and data sources would have to be developed *ad hoc*. The scope of the assessment was therefore limited to evaluating improvements in Joint training effectiveness, with secondary interest in assessing management issues related to Joint training. Future assessments are planned to also address training efficiency measured by cost, schedule, and performance, but for the most part these measures would have to wait.

Figure 1 shows how the Block Assessment was organized. It was conducted under the aegis of the Training Transformation leadership consisting of an Executive Steering Group (ESG) working through a Senior Advisory Group (SAG). The work was led by the Director of JAEC with considerable input and analysis from the Joint Management Offices (JMO) for JNTC and JKDDC. The JMOs are responsible for planning, program preparation, program management, and execution of their respective resources in accordance with the T2 Program Execution Plan. There was also collaboration within the Office of the Secretary of Defense (OSD), the Joint Staff, United States Joint Forces Command, other Combatant Commands, the Services, and other interested offices and agencies. The JAEC Director provided regular updates to the ESG and SAG. Individual and collective training were assessed separately by an integrated team that drew on specific expertise in relevant areas.

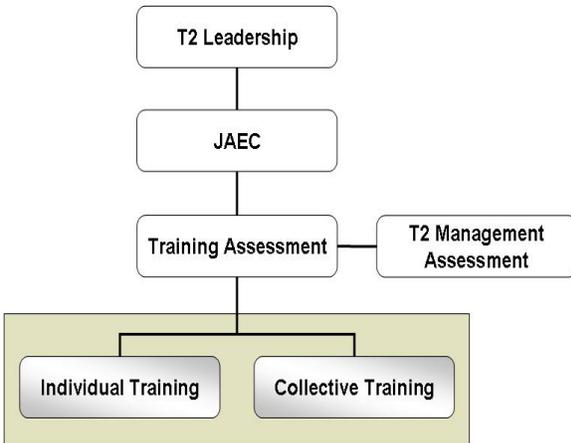


Figure 1. T2 Block Assessment Organization

THE 2005 BLOCK ASSESSMENT OF TRAINING TRANSFORMATION

Initial Steps of the Assessment

The Training Transformation program began after the 2001 Quadrennial Defense Review. In June 2003 Under Secretary of Defense, Personnel and Readiness, Dr. David Chu challenged military operations researchers to assess new analytical methods and measures to improve joint training effectiveness and joint readiness, which precipitated a MORS workshop in September 2004 called, "Training Transformation: Analysis and Assessment in New Operational Environments." This three-day effort exclusively considered the difficult problem of measuring not only the effectiveness of military training, but also how to measure the differential value of this new "training transformation" effort compared to the old way. Workshop results included two important conclusions that would help frame the 2005 Block Assessment:

- Determined that mission capability should be the focus of training assessment;
- Identified five other criteria also important: realism, assessment to standard, availability, flexibility, and acceptance.

Elements of the 2005 Block Assessment

While the value of assessment is widely agreed, any attempt to define specific details invites energetic discussion. Some in the community contend that the true assessment of training effectiveness is in the operating arena, a statement that is difficult to argue but provides little practical benefit to developing an assessment framework. An opposite approach proposes

potentially complex calculations of return on various investments, such as persons trained per dollar. JAEC's task was to consider these and diverse other options, select those metrics that were most valuable, and pursue data that allowed us to conduct the assessment.

The 2005 Assessment team formulated four separate analyses that reinforced each other and presented different aspects of the activities under consideration. These analyses were:

- The extent to which current Joint training programs met the goals laid out in the Training Transformation Implementation Plan (I-Plan). The I-Plan is a well-known document in the program that provides explicit actions and outcomes for the three T2 components (JNTC, JKDDC, and JAEC) as well as timelines. The assessment team calculated the proportion of outcomes that had been accomplished, listed those outcomes that were not accomplished, and discussed some of the reasons these were not yet achieved.
- Evaluation of the significance and implication of key initiatives that each of the T2 components had undertaken to transform Joint training.
- Incorporation of feedback from the T2 stakeholders - Combatant Command staffs and military Service training offices. The feedback included both positive comments identifying how well Training Transformation programs are improving their ability to carry out their missions as well as suggestions for improvement for the future.
- An independent assessment of T2 evaluating metrics for effective training. These were the most valuable metrics gleaned from a larger population of candidate metrics assembled by the study team.

These four elements were then supplemented by additional information to increase the value and use of the Block Assessment.

- Case studies of individual and collective training activities incorporating metrics assessment.
- A discussion of the Joint Training System (JTS) process and its supporting information management system (JTIMS) and how it relates to the overarching T2 process.
- An overview of significant accomplishments implemented by the JNTC, which captures several years of progress and helps establish the 2005 assessment as a baseline for future assessments.

Metrics Used for the Assessment

Findings from the September 2004 MORS workshop focused on mission capability and ensured that the Block Assessment would go beyond measures of training activity (input, output, cost, etc.) and strive to assess the effectiveness of joint training. The five criteria identified at the workshop would be a valuable construct to help manage the metrics and serve as a link from the T2 program objectives, which were strategic-level concepts, to the granular level of metrics and measures. With these analytical structures in place the assessment team examined the stated objectives of T2 and identified attributes of joint training that could be measured. The list of attributes evolved as the project progressed, with the final version as follows:

- Right skills, tasks, and learning - asks if the right material is taught, and whether it is learned.
- Right audience - asks whether the training reaches all relevant echelons of all organizations, including the reserves, support organizations, and non-DoD organizations.
- Flexible, adaptive, and timely training - asks whether the training programs can quickly adjust to changes in battlefield conditions, technological advances, or other factors. It also asks whether personnel taught to “expect the unexpected.”
- Efficient - asks whether the training program conveys the material at minimum cost in money and time. As training becomes more efficient, we can afford more of it, as well as other means of improving operational effectiveness.

For each of these attributes the group developed ten to twenty metrics for a total of over fifty. While they were based in reality, the group did not restrict itself to metrics for which a data source could be identified. In other words, all metrics were plausible, but many would require persistence and cooperation in order to be realized. In the course of preparing the report, the number of metrics to be included was reduced to 19, as the value of the original metrics was reconsidered. The 19 final metrics included several for which accurate data could not be collected, but which were judged to be important enough to be included nonetheless. To provide a sense of the project, example metrics for each of the attributes follow.

Attribute: Right Skills, Tasks and Learning

- Example Metric: Number of Joint programs nominated, reviewed, and accredited.

- JNTC accreditation program ensures Joint training programs include the appropriate elements of Joint context for the tasks being trained. Certification ensures technical aspects of the program support this joint training environment.
- Data: Twenty-one programs were nominated for accreditation; five were reviewed; two were fully accredited and two conditionally accredited in FY 2005.
- Implication: Progress is being made in assuring the availability of appropriate joint context in training events.

Attribute: Right Audience

- Example Metric: Implementation and usage of Joint Training and Experimentation Network.
- JTEN is a persistent global network that allows training audiences to work together from various locations.
- Data: The network had 31 persistent sites operational by 15 Sep 2005.
- Implication: The ability to quickly link distant parts of the training audience is improving.

Attribute: Flexible, Adaptive, and Timely Training

- Example Metric: Time to prepare and execute Joint exercises.
- Based on key events in the Joint Event Life Cycle, a JTS process for planning and preparing for training events.
- Data: For two major exercises before and at the start of T2, the average time to prepare and execute was 16.4 months; while two major exercises after the start of T2 had an average time of 11.1 months.
- Implication: Timeliness and responsiveness in collective training are improving.

Attribute: Efficiency

- Example Metric: Resources required to conduct Joint collective training exercises.
- Examined personnel-based resources: number of JWFC staff members that supported exercises and JWFC staff support hours expended.
- Data: Thirteen JWFC exercises were examined to determine the number of personnel and staff-hours required to support exercise development and conduct. Values were normalized for the size of the training audience. We found no reduction in number of personnel required, but a reduction in staff-hours for the execution phase of exercises.

- Implication: The evidence cannot be treated as conclusive without a larger sample size and additional investigation.

During a progress report on the assessment, T2 leadership requested a case study approach to examine the impact of Training Transformation on collective training. Analyzing all of the exercises conducted was not feasible. The case study instead selected aspects of performance of some exercises to compare over time. Four time periods were identified: Before T2 (2003 and earlier), Start of T2 (2004), T2 Now (2005), and T2 Future (2006). The study team analyzed eight joint exercises in detail, and resource usage in an additional seven events. The events were chosen as representative of the time periods, and also for data availability. The metrics used were from the initial list of fifty. The case study offers a limited picture of the scope of T2 exercises during the period, highlighting variations over time in the following areas: JNTC's role, the involvement of COCOMs, the components that participated (active and reserve), the Service training programs that were involved, and resource use.

In parallel to the collective training case study, a case study of individual training considered three specific on-line training courses developed by JKDDC. The individual training case study metrics dealt with cost per course-hour, and important and wide-ranging measure. It also addressed process and qualitative issues related to the three courses.

Recommendations from the 2005 T2 Block Assessment

Even with the relatively limited aims of the first T2 Block Assessment, the report included worthwhile recommendations for T2 leadership at several levels. The recommendations fell into two broad categories: improvements to the Training Transformation program and improvements to the assessment process. Examples are provided below, focusing on those related to the assessment process.

Several of the recommended improvements to the T2 program were aimed at senior program managers, as they would require significant effort and time to implement. An example is the recommendation to integrate collective and individual training (the two large categories of DoD training). Fully accomplishing integration would require extensive coordination and revision of processes and policies. The report, however, includes lesser elements that can be accomplished along the way. In this case, two of these elements are: develop a highly tailored collective

training capability for all echelons of the Joint force, and integrate distance learning content with institutional training and education. These can be accomplished more easily and will contribute to the larger goal of integrating collective and individual training.

Another recommendation to senior program managers was to improve management of personnel aspects of training to track experience, education, and training – a significant effort. Again, two of the lesser recommendations that would contribute are: include the Reserve Component more directly in T2 training, and provide guidance on developing the civilian workforce (government and industry) to support Joint operations.

Additional recommendations for improving Training Transformation include the following:

- Develop an assessment framework with identified metrics. JAEC (the office responsible for Block Assessments) concluded that an overarching framework for assessing the effect of joint training on force readiness would benefit T2 itself. The framework would provide a common language for training providers and customers and would simplify reporting and analysis. This recommendation leads to the second set of recommendations, which detail improvements to the block assessment.
- Incorporate a resource analysis process to facilitate assessment of training efficiency. JAEC identified the need for procedures and methodology for measuring costs as well as demonstrating how much training is provided by training methods such as classrooms, distributive learning, simulators, and live/virtual/constructive exercises. Knowing the relative efficiency of these methods would help T2 managers make the appropriate changes in doctrine, operations, training, and materiel to obtain the most training for the least expense. Increased efficiency should be treated as an explicit goal of T2, and T2 managers should establish a JAEC-led resource analysis process to reach the goal.

The second general area of concern for the published recommendations was improvements to the T2 Block Assessment itself, including its processes and measures. A logical byproduct of the inaugural 2005 effort, this set of recommendations should enhance future assessments and support the “overarching assessment framework” identified as important for the

T2 program. To help focus the recommendations, the major goal for future Block Assessments was stated explicitly: produce an integrated assessment of transformation progress. The report went on to note that this will require continuous data collection from all partners in the Joint training community, and then provided specific recommendations to support these improvements. Several recommendations and associated comments are:

- Prepare JMOs for future cost, schedule and performance assessments. To prepare JMOs for collecting these data, JAEC should make two changes in the way performance metrics are collected and developed: (a) shift from episodic to continuous collection, and (b) establish an integrated enterprise view of the performance of the trainers to support assessment at all levels of the Joint training processes.
- Use JTS and JTIMS to provide needed data to the COCOMs and Services. The key to ensuring consistency within the Joint training information space is ensuring consistency in the processes by which the data are collected and published. Tools can only capture and manipulate the data called for; it is up to the operators of those tools to ensure that the data are handled in a consistent fashion. Context is provided in the steps of the JTS and the stages of its processes. JAEC should educate and assist the COCOMs in implementing these processes. We need to ensure that when one organization tries to use data that were generated by another organization, the data were published and extracted in a consistent manner.
- Institute a process to develop metrics for T2 exercises and individual training for use in future assessments. The metrics used for the 2005 report appeared to the assessment team to do a decent job in describing the size and scope of the T2 effort. The team suggested that JAEC direct and supervise the development of metrics using the enterprise view as a basis. At the working level, JAEC will quantify the training being provided to the training audience from the perspective of the tasks to which they are trained and the place of these tasks within the Joint learning continuum. Additionally, JAEC should work to better capture the costs of Joint training in the day-to-day operations of the Joint training community. As the methods and metrics mature, they should be formalized and institutionalized as part of the JTS processes

they support. JAEC should provide T2 managers with feedback on the ability of these methods and metrics to support the decision makers at the various levels of the Joint training community hierarchy. This feedback will be used to develop changes to the metrics and methods, and to JTS and the automated tools that support them.

Future Block Assessments

In the end, the 2005 T2 Block Assessment was well-received and provided helpful information to program leaders and decision-makers. JAEC leadership, however, realized that it was a result of an immature process and immediately took steps to improve future assessments. They focused on assessment methodology. Among the guiding principles is a priority to develop and publish metrics that will support trend analysis in the 2007 Block Assessment. (These metrics were being finalized and coordinated with the T2 community as this paper was being completed.)

As noted, the 2005 Block Assessment had a well-defined and somewhat limited scope, owing largely to the realization that it was an initial effort. Additional areas for improvement include:

- Increase in scope from the three basic T2 capabilities (JKDDC, JNTC, and JAEC) to the full range of T2, including joint training conducted by the Services and COCOMs.
- Expand from *joint* operations to *integrated* operations. As planning for future assessments was being conducted, DoD expanded its interest from joint operations – those involving more than one military Service – to integrated operations, which may include Federal agencies, State and local governments, foreign governments, international and nongovernmental organizations, and private sector companies and individuals.
- Address training efficiency measured by cost, schedule, and performance. This will require preparations as mentioned above, but will increase the value of Block Assessments to DoD leadership.
- Increase coordination and collaboration. These changes would be commensurate with the increase in the scope of the assessment.
- Increase use of automated data sources and routinize data collection. The recently-improved NexGen JTIMS shows great promise as an aid to the Block Assessment,

but more importantly it should finally provide an integrated, consistent decision support tool to facilitate the mapping of training requirements to plans and outcomes. The JTS process will be successful once stakeholders fully participate, and NexGen JTIMS should facilitate this aim.

- Improved planning based on experience. As with almost any event or operation, the initial experience results in lessons observed that can be applied. Each Block Assessment uses a spiral feedback mechanism to ensure lessons observed and relevant recommendations are incorporated into future iterations.

The 2005 T2 Block Assessment serves as a baseline, not only for the T2 program but also for future Block Assessments and related efforts. It was performed by an integrated team that drew on specific expertise in each relevant area, and that essentially designed the program while performing the mission. When fully implemented, the overarching assessment framework will include: training programs and joint events being evaluated; evaluation data available for metrics and assessment; operational effectiveness rather than internal processes evaluated; and a system of systems integration of training and readiness

requirements. As the findings and recommendations from the 2005 assessment will help T2 leadership, the internal results will provide the foundation for future training assessments that will provide feedback to T2 managers and DoD leadership concerning how best to assure that forces are trained to provide needed operational capabilities, now and in the future.

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