Joint Collective Performance Measures: Performance Validation through Measurement.

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ABSTRACT

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As a result of the 1992 Joint Training Review, the Chairman, Joint Chiefs of Staff (CJCS) directed that the Joint Staff develop and institutionalize a requirements based training system to better focus DOD's training resources and return a better trained and more ready Joint Force. The first step was to define the capabilities required in terms of Task, Conditions, and Standards using the Universal Joint Task List (UJTL). Ideally, joint training should use the Joint Training System (JTS) process to translate missions to capability requirements using the UJTL. Once requirements are defined, training objectives are developed and events designed to accomplish those objectives. This process provides focus and discipline to the planning, execution and evaluation of events and will provide performance data to assess mission readiness.

A tremendous amount of energy has been invested to implement the system and the resource expenditure must be justified in terms of increased organizational performance. Organizational performance in DOD is measured in terms of readiness. The JTS is based on an analytical process of translating missions capability requirements to tasks, conditions, and standards to describe the level to which people must perform to accomplish the task. Consequently, the ability to measure the organizational performance of the tasks is essential.

This paper describes the analytical framework and reviews the research on collective performance measurement. It challenges the community to review the performance measurements in the UJTL to determine the sufficiency of those measures identified and make recommendations for new measurements.

ABOUT THE AUTHORS

Bob Fleming (aka "Pitter") joined the Camber team after retiring from the US Air Force. He brings over 15 years experience in joint operations, joint training and joint training support programs. Specifically, he is the acknowledged expert in the Joint Training System that is currently being implemented by DOD. As such he is fully versed in: development of Joint Mission Essential Tasks Lists (JMETL), Conditions, and Standards; Joint / Service Component / Combat Support Agency Training Plan development; training event execution and evaluation; and training program assessments. He has worked as a member of, or in close contact with, DOD and Joint Staff, combatant commands, Service components and Service headquarters, Combat Support Agencies, and has introduced the Joint Training System and it's key elements to multinational representatives. Bob's expertise includes both the development and the application of the (UJTL), with associated conditions and measures, as well as the issues associated with the integration and applications of Service Task Lists. He holds a B.A. from the New Mexico State University and an MS in Systems Management from University of Southern Cal.

Joseph C. Bat-to, III leads the Performance Improvement Team at Camber. His last assignment on active duty was at the Joint War-fighting Center at Fort Monroe, Virginia where he was instrumental in the development of the Joint Training System. His specific expertise is in the area of Performance Measurement in terms of Evaluation and Assessment. He was the primary author of the 1 June 1996 version of the Joint Training Manual. He holds a B.S. from the United States Military Academy at West Point, NY and an MPA from James Madison University at Harrisonburg, VA.

Dr. Carol Johnson has been facilitating the development of a Joint Readiness System for the past 4 l/2 years. She has worked closely with the development of the Universal Joint Task List Tasks, Conditions, and Measures. Prior to that, she worked with Army collective training performance for 15 years. Dr. Johnson has a Ph.D. in Industrial/Organizational Psychology.

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Introduction

Military readiness has long been a concern of both the Department of Defense and the nation. Commanders at all levels are concerned with determining how well their command will be able to perform when called on to execute their assigned missions. The taxpayers and their elected representatives are concerned with the level of resources required to ensure our forces can perform their missions. Today, and ever more so in the future, a fundamental question on readiness and performance is "how do we determine the level of performance required of our military force?"

What is the level of performance required of today's soldiers, sailors, airmen, and marines? How are the levels of individual and small unit performance determined? How are they measured? Significant research has been done to answer these questions. To a large degree these answers are known within the individual Services. While much can, and is, being done to refine the levels of performance required of individuals and units, the Services are for the most part able to both define and measure performance at that level.

Above the unit level there is a significant void in measures of performance. Relatively little research has been done to explore or define the performance measures of the collection of organizations comprising a joint/multinational force. It is in this area, above the Service unit level of performance, that this paper focuses.

The Problem

Beginning in the post-Viet Nam era and accelerated in this post-Gulf War era an increasing emphasis is placed on "jointness". In the broad sense, jointness is the ability of the Service forces to conduct operations in an integrated and synchronized method. At the operational and strategic levels of war (i.e. above the division unit level) the primary functions of Joint Headquarters (Joint Task Force (JTF), CINC Staffs, Joint Staff, and the National Command Authority) are to synchronize and integrate the forces provided by the Services through the Component headquarters to accomplish the full range of operational missions. Further, in the past 2 years focus has expanded from joint operations1 to include US interagency functions, as well as the multinational aspects of US military operations.

The task of measuring the synchronization and integration function is complex and requires data capture that is valid, relevant, and reliable*. Valid, relevant, and reliable performance measures are required to define and articulate the gap between required performance levels and current performance levels.

To date the most significant effort in the performance measures at the operational and strategic levels of war was done in the development of the Universal Joint Task List (UJTL) Version 3.0[3]. This document was developed to provide a common language by which commanders describe the capabilities required to accomplish their assigned missions. UJTL Version 3.0, (with the software support tool

Joint Exercise Management Package (JEMP) I Mission Requirements Module (MRM)), provide a linked menu of "proposed measures" for use in establishing a standard of performance for each task.

Consider the following UJTL task and related measures:

DP 53.1 Conduct Operational Mission Analysis. To rnalyze the assigned mission (includes assigned strategic nilitary and politico-military objectives) and related tasks in he context of the next higher echelon's campaign plan or operation order, and the strategic aim. (JP 3-0,3-02,3-07.1 *j-0(JP3-01.4, 3-05.3, 3-07, 3-58, J-03.1))*

M1 Percent	Of critical intelligence reports and AOR-related intelligence estimates reviewed prior to mission analysis/end state assessment.
M2 Percent	Of available planning time allowed for subordinate planning (after COA selected).
M3 Percent	Of commander's mission essential tasks identified by subordinate commander for execution.
M4 Percent	Of essential tasks derived in operational mission analysis and carried into planning.
M5 Percent	Of identified risks have written risk assessment.
M6 Percent	Of implied tasks derived in operational mission analysis and carried into planning.
M7 Percent	Of stated tasks derived in operational mission analysis and carried into planning.
M8 Percent	Of units available to joint force included in review of forces by JFC.

UJTL Task With Associated Measures

Are these measures valid, relevant, and reliable related to this specific task? Do they reflect the level of performance required of the staff conducting this task?

The problem is that the current measures included in the Universal Joint Task List often do not adequately provide for accurate definition of required or current performance levels at the operational or strategic levels of war.

The lack of accurate measurement of collective performance makes the synchronization and integration of individual skills both arduous and meaningless. Operating without such measures makes the efficient application of available resources virtually impossible. Without knowing when the goal (level) has been achieved, either putting more resources against the task or reallocating the resources against those tasks not yet accomplished is largely a guessing game.

Equally damaging can be measuring (and/or rewarding) the "wrong things", or defining irrelevant measures. Such measures more often than not lead to non-productive, if not counter-productive, individual performances. In a baseball analogy, "swinging for the fence" when the team really needs a hit is counter-productive. Measuring, and rewarding, the quantity produced without regard to quality will undoubtedly result in lower quality products. The historical example of dysfunctional measurement in the Viet Nam "body count" was recognized and corrected in the Gulf War.

The axiom of getting what is measured and ultimately rewarded is fundamental to achieving the purpose of any organization. Making relevant measures the foundation for both individual and collective performance rewards is critical for an organization to attain its performance objectives and succeed. Every organization is measuring individual and collective performance in some way. However, if senior leadership is not engaged in this process, then by default many unintended performance measurements may be driving some very dysfunctional behaviors.

Definitions:

Essential to the understanding of the issues presented here is the definition of terms. Within this paper the following definitions are used:

Mission: The broad task, together with the purpose, assigned to a commander. In this framework, the tasks of a superior commander may be passed to subordinate commanders as missions. (NOTE: Doctrinal terms such as Attack, Defend, Raid, etc. are not missions herein; Attack Iraq, Defend Kuwait, etc. are

missions in that they define/describe the scenario in which tasks will be performed.)

Operation: A series of related tasks grouped together to accomplish a mission. Example: Offensive Air Operations, Interdiction Operations, Amphibious Operations.

Task: A discrete event or action, not specific to a single unit, weapon system, or individual that enables operations to be accomplished.

Tactics, Techniques, and Procedures: The actions and methods which implement joint doctrine and describe how forces will be employed in joint operations.[4] (NOTE: in the context of this paper, procedures may include doctrine, policy, or standard operating procedures in either written or non-written form. These terms describe how a task will be accomplished.)

Measures of Petformance[5]. Measures of performance provide a way of describing how well (i.e., the standard) an organization or force must perform a joint task under a specific set of conditions. Measures are used by the force commander to establish task standards based on mission requirements. These standards, when linked to conditions, provide a basis for planning, conducting, and evaluating performance.

Standard. The minimum acceptable proficiency required in the performance of a particular task under a specified set of conditions. A standard provides a way of expressing the degree to which an organization or force must perform a task under a specified set of conditions. A standard consists of one or more measures for a task and a criterion for each measure. The terms "measure" and "criterion" are defined below.

a. A measure provides the basis for describing varying levels of task performance. A measure is directly related to a task.

b. A criterion defines acceptable levels of performance. It is often expressed as a minimum acceptable level of performance. The combination of the measure and the criterion comprise the standard for a task.

EXAMPLE: Measures are time, distance. Commander's criteria for a mission-related task are 1 day to move 10 miles. Standard for this task is "move 10 miles in 1 day".

Objective Measures (How many, how much, how long? Time, Numbers, Amounts)

- Low Collection Expertise Required. Can be generated by raining Media (i.e. Model or Simulation)

Subjective Measures (How well? Integration and Synchronization Issues)

High Expertise Required. Best generated by SME's personal observation of training audience performing tasks.

An Analogy:

A simple example is a baseball team. On a successful (winning) team each player is given roles--"Play first base and hit third." They are given performance standards in terms of performance measures and criterion: make less than three (criterion) errors (measure) and get base hits (measure) at a rate of 300 per 1000 at bats (criterion). Individual contribution and compensation is based upon how these standards are accomplished. The manager establishes a standard for each player; the players are motivated to accomplish their goals to obtain appropriate rewards, i.e. the rewards meet their needs.

But the successful manager recognizes that even when everyone is performing to those individual standards, the team may not win any games (accomplish the mission). Assignment of individual standards is just half the problem. How does the manager motivate the team as a group and assign collective performance standards? The manager is given a mission (make the playoffs, win the division, win the series,...). He must determine a standard--the number of games the team needs to win to accomplish the mission (based on his baseball training, education, and experience)--because the manager is not measured on individual performance but in the performance of the team collectively in accomplishing the mission.

The manager has a pool of resources (players) and must match those resources to the individual

roles and tasks required to win any given game, so that when all the team's individual performances are taken together games are won within those resource constraints. Even though baseball is a relatively objective team sport, the World Champions frequently do not have the best individual statistics, but they *are* able to integrate and synchronize their efforts on a daily basis better than the other team on the day the games are played. Without the personal, individual performance of all the players there is little chance of team success. Yet, it is not the individual performances of nine players that are important but the synchronization and integration of the nine players' abilities towards a common goal that wins championships.

Now shift to the General Manager's perspective. He is measured by whether or not the organization is meeting its financial standards. Ensuring the team is marketed and ticket sales are high provides the resources for the General Manager and the manager to correct identified shortcomings and deficiencies. Before the General Manager can take corrective action to increase performance he must understand the performance problem, so that when he develops player trades, adjusts ticket prices, or buys new equipment he has some level of confidence that the selected action will correct the situation.

The essence is that in order to make productive adjustments (increase performance) the leaders of any organization must understand: what the required performance standards of the organization are; what the current performance is relative to those standards; and why the organization is not performing to standard. The positions within an organizational hierarchy have different roles, perform different tasks, and require different performance measures.

The Department of Defense is similar, although much more complex. When the CJCS and the ClNCs make their annual trip to Capital Hill to present the state of the force and defend the budget, they essentially articulate their position in the same terms: to achieve X levels of performance (capability) we need Y level of resources (Mission Readiness = Resources + Performance). Every year, the DOD senior leaders are asked more difficult questions, for more details, for more analytical data to support their position. Fundamentally the questions are: what (how much) do you need and why? (what is the basis for your stated requirement?); and what will we get for this dollar spent? (how will you measure return on this investment; how will this dollar relate to maintaining or increasing performance?).

Linking Resources to Missions through the JTS:

A result of the 1992 Joint Training Review was recognition of the need for a requirements-based training system to better focus DOD's training resources and return a better trained and more ready Joint Force. To that end the Joint Training System (JTS) was developed. The JTS is based on an analytical process of translating mission-based capability requirements to tasks, conditions, and standards. The Universal Joint Task List (UJTL) provides a common task list, a set of possible conditions, and performance measures that support the commanders development of performance standards. Once requirements are defined, training objectives are developed to describe the level to which people must perform to accomplish the task. This process provides focus and discipline to the planning, execution and evaluation of training events and will provide collective performance data to assess mission readiness: ultimately, organizational performance in DOD is measured in terms of readiness.

The JTS provides a four phased system--Requirements, Plans, Execution, and Assessment--all using the common terms of the UJTL. Throughout the five years of development of the JTS, what began as purely a training initiative emerged as something much more powerful and useful. During development of the final phase, Assessment, we found that at the senior levels the question they were really concerned with was whether or not the command was ready to perform the assigned missions, and if not--why not? Senior level leaders expected the answer to that fundamental question to be based upon some demonstrated performance and the collective wisdom of their supporting and subordinate commanders and staffs. Further, we found that often the reason we were not trained to standard had not only to do with the training of the staffs or forces but that: the doctrine was often insufficient, organizations were ineffectively designed, forces where improperly equipped, or

leaders were not educated in the fundamental elements of leadership.

Development of the Assessment Phase caused a new look at the Requirements Phase. What we thought at first was a quest to take the Joint Strategic Capabilities Plan directed missions and derive the training requirements-who needs to be trained, on what tasks, under what conditions, to what standards-became much broader. What we discovered was that the training requirement did not capture the entire capability required to perform the mission. Training is just one aspect. To truly capture an answer to the question of, "Are we ready to perform the assigned mission?" requires a balanced mix of sufficient doctrine, units properly organized, training to standard, correct equipment, educated leaders, and sufficient manning. What we discovered was that while we can be completely trained to standard, we are not be completely ready unless we are trained to standard with the full package-doctrine, organizations, materiel, leaders, and people.

Hypothesis: Mission Readiness = Resources + Collective Performance/ Doctrine, Organization, Training, Leader development, Materiel, and People (DOTLMP).

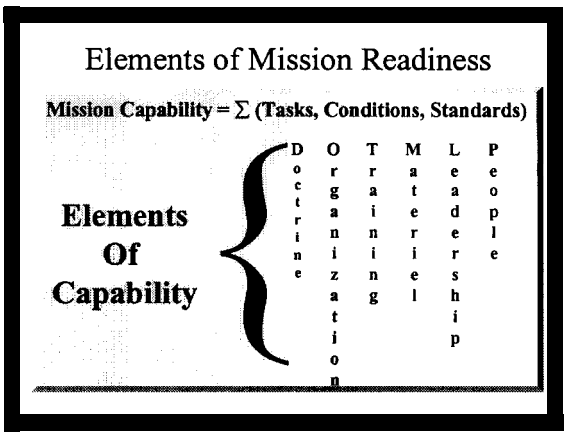

Figure 1.

As shown in Figure 1, mission capability requirements are defined in terms of tasks, conditions, and standards. "To accomplish this mission, we must accomplish these tasks, under these conditions, and to these standards."

> For example: UJTL task OP ***5.3.1*** Conduct ***Operational Mission Analysis.*** *To analyze the assigned mission (includes assigned strategic military and politico-military objectives) and related tasks in the context of the next higher echelon's campaign plan or operation order, and the strategic aim.* This task does not fully describe the required capability without the conditions relevant to the task-full versus limited communications, mission classification-UNCLASS versus TS; theater intell organization-mature versus immature; etc. Likewise standards: time available-limited time requires higher level of performance, etc.

As defined in the CJCS Joint Vision 2010[6], capability consists of the elements Doctrine, Organization, Education & Training, Materiel, Leadership, and People (DOTMLP). In this construct, the *tasks, conditions,* and *standards* derived from the collective missions of the Armed Forces provide the foundation for each element of the required capability requirements, i.e. for DOTMLP. The *standards* define the required level of performance. In order to perform at the required levels, these elements must be provided. These requirements are, in turn, converted into the overall resource requirements of the Armed Forces. In order to provide *these* elements of capability to the required levels, *these* resources are needed.

Mission Readiness is dependent upon availability and effective allocation of resources and the performance of the members of the Armed Forces, both individually and collectively. Visibility of the relationship between mission readiness, resources, and performance then is a key leadership concern. To provide that visibility, a methodology must be established to relate performance and programs to missions. This linkage requires establishment of common terms of reference, metrics, and ultimately prediction and measurement of return on investment for America's Armed Forces in accomplishing our national defense.

Joint Staff J7 is working toward this goal. The existing JTS establishes the process for linking training requirements to resource requirements in a timeframe aligned with the PPBS/POM process. The products of this process are beginning to develop, albeit on a limited scale. As automation tools are refined, the linkage of resources to required training support will be simplified. This,

and the ability to demonstrate the process, will help implement and refine the resource allocation portion of the JTS.

Impacts and Effects:

The true value of what is being done in the JTS goes well beyond training. The power of collective performance measurement can be realized within every program, activity, or process within the Department of Defense and eventually throughout the interagency and multinational community with whom we depend to accomplish our missions. Every critical consideration and every person involved in the generation of America's military capability should be able to map their activity directly back to the improvement of the Department of Defense's readiness to perform their mission. The mapping is enabled through a common language (the Universal Joint Task List) and it's inherent ability to measure the performance of that task when related to a specific set of staffs, forces and missions.

Doctrine / Organizational Development:

The ability to think through problems and create efficient ways to accomplish missions from an institutional perspective has always been an American strength. Valid, relevant and reliable performance measures will allow the intellectual energy of the Armed Forces to be focused on those tasks or group of tasks where the standards are not generally being met. The ability to understand what doctrine is basically sound and what requires revision to meet performance objectives leads to a more refined doctrine development system.

Organizational design, related to the doctrinal decisions on how to employ the force, is enhanced through the analysis of task, and tasks grouped by operations. Performance of a Joint Task Force, a Joint Force Air Component / Land Component / Maritime Command, etc., can be reviewed, revised, and refined through task-linked measures of performance.

Joint Training:

When considering the multiple activities available for training a task, the trainer will select the best way to train based upon which training method will provide the most accurate performance information. The trainer will be able to design training events with a higher degree of focus and improved effectiveness because the training will produce data which indicates actual level of performance against a requirement mapped to mission.

Modeling and Simulation Development:

Modelers and Simulators will be able to focus their efforts on creating environments that produce performance data in common formats. They will be able to focus their efforts on tasks that lend themselves best to modeling and simulation based upon which performance data the model or simulation must produce.

Materiel Development and Acquisition:

Materiel Developers will be able to articulate the worth of their systems in much more powerful and relevant terms. Instead of saying that a new tank is required because it goes faster, shoots farther and more accurately, one can make the case in terms of this piece of equipment improves the capability of the force to conduct it's mission. The justification then becomes-This tank will allow the task, [UJTL TA 1, Deploy/Conduct Maneuver], to be accomplished to standard in 9 out of 10 cases because of its ability to travel 20 mph faster on the battle field than an earlier tank. However, this tank affects the ability to Perform Logistics and Combat Service Support (TA 5) because it requires re-fueling every three hours instead of 8 hours in the earlier model.

Joint Warfighting Experiments:

A reliable set of collective performance measures is a must for conducting joint experiments[7]. Experimenters must be able to measure the value (in terms of increased performance) of a new technique, piece of equipment or process within the context of the actual experiment. But they must have available performance data on how well the task is currently being performed to make value judgements on the worth of the new intervention. One can not gauge the future without a clear understanding of the present.

Resource Allocation:

Senior leaders whose primary responsibility is resource allocation would have the ability to focus the energy of programs and processes on single problems and the generation of specific capabilities to perform missions. Senior leaders are much more concerned that a new piece of equipment provides a new or improved capability to conduct strategic mobility than they are in that the airplane is bigger, faster and has greater range. While bigger and faster ships and airplanes may be important, it is the ability to improve the performance of the task "Conduct Strategic Mobility" which truly allows senior leaders to best allocate our scarce resources.

The Way Ahead.

The Joint Training System implementation is underway in the combatant commands, Services, and the DOD Combat Support Agencies. The *process* is in place throughout the defense community, although the *products*[6] are in their embryonic stages. Fundamental to improving these products is the further development and refinement of collective Measures of Performance; specifically those contained in the UJTL DRAFT Version 4.0.

Products of the JTS provide valuable insights to all elements of the readiness construct. The process for development of Joint Mission Essential Tasks (JMET), Conditions, and Standards in the Requirements Phase provides the requirements foundation for all elements of readiness (DOTMLP). Within the Plans and Execution Phases of the JTS, as training methods and technologies push closer to "replication[9]" of realistic conditions, our forces can gain valuable insights into the performance and deficiencies of existing products. Field Training Exercises (FTXs) conducted with actual equipment and under realistic physical conditions, as well as Command Post Exercises (CPXs) using actual C3 systems and real-world databases both provide feedback on TTP, equipment, organization and leadership as well as the training process and the level of performance observed of the training audiences.

The Assessment Phase of the training system provides insights into shortfalls, as well as the effectiveness, of other programs. Again, conceptually we understand that the power here is much more than better training." Once these insights are captured a focused implementation program should be executed to ensure the wide application across the joint community. This process generates performance data from both training and operations, and without a common framework (i.e. task-based) meaningful analysis is extremely difficult.

The developmental efforts the entire community assist in both performance measure data collection, and the analysis of that data. The ability to effectively define required levels of performance, as well as to measure current performance, is integral throughout the readiness process. Conversely, the inability to do so will certainly result in some level of inappropriate/ unnecessary application of resources.

Focus of the research can be divided into two fundamental but related efforts (Figure 2): "What are the required levels of performance?" and "What are the *current* levels of performance'?" In both efforts, valid, relevant, and reliable measures of performance are essential.

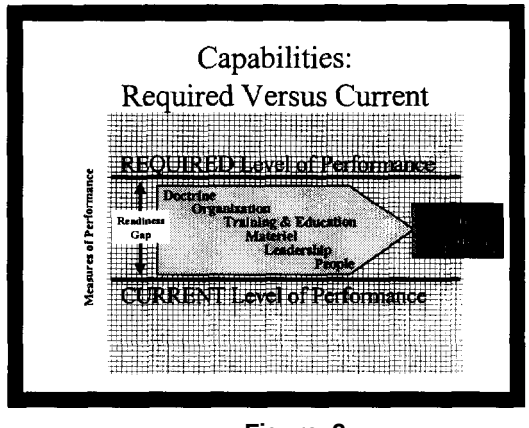

Figure 2

The required levels of performance relates to the ability of commanders to accurately predict required levels of performance at some point in the future, relative to the "current force, current missions". This directly impacts the ability to identify and justify the resources required to attain/maintain those levels. It is also related to how the "Desired Operational Capabilities" (DOCs) are defined in the evolution of operational concepts described in Joint Vision 2010". The Joint Vision development process also uses the construct of defining these DOCs in terms of

tasks, conditions, and standards. In other words, this process is evolving towards supporting the definition of requirements for the "future force, future missions".

This research on requirements focuses on the process and products of the JMETL and Service component METLs. How do the commands currently determine and define their tasks/ conditions/ standards? Are different methods being used? Are different products being delivered? What level of confidence do the commanders have regarding the validity, relevance, and reliability of their measures of performance? What is the impact of those standards on the command's PPBS input? On their Joint Monthly Readiness Reporting inputs?

The second area of focus, current levels, involves both the Plans and Execution Phases of the JTS as well as actual operations. As described in the Joint Training Manual (JTM)1[2], Training Objectives describe the desired outcome of training events relative to the tasks, conditions, and standards contained in the command JMETL/METL. During event execution, data is collected/evaluated relative to JMETL based Training Objectives. Likewise, data is collected during actual military operations relative to what was expected/planned and what actually happened. Much of this data is/can be related back to task, condition, and standard for common reference.

In this area the integration of ongoing research projects provides insight on what the "correct' measures are. How are commanders measuring performance today? What factors are considered in performance evaluation? What data is collected? What are the results? What are the inputs to the current state of readiness assessed by the commanders?

Efforts on UJTL measures validation have already begun on selected tasks in a study of anti-terrorism tasks1[3]. One set of criteria for evaluation of Measures of Performance (MOP) was developed in this study, which provide a starting point for analysis. They are:

Does/is the MOP:

1. Address an Important Dimension of Task Performance?
2. Reflect How the Task Contributes to Mission Success?
3. Reflect an Aspect of Performance that is Degraded by Some Condition(s)?
4. Address a Result/Product of Task Performance?
5. Distinguish Among Multiple Levels of Performance?
6. Allow for Readily Obtaining data?
7. Independent of the Means Employed to Perform the Task?
8. Simple?
9. Employ an Absolute Scale?
10. Employ a Relative Scale?
11. Allow the Measure of Task Performance be Interpreted Independent of Mission Context in which it Occurred?

Conclusion

Defining and measuring performance is an essential element of a commander's ability to assess the readiness of the organization, be it a Battalion/Squadron or DOD. Determining capabilities required, as well as current capabilities, is not a simple task. In both cases valid, relevant, and reliable Measures of Performance are needed at the individual/unit and the collective levels.

In accordance with the Future Joint Training Strategy, the Joint Staff J7 is initiating further research in the area of Collective Performance Measures. The focus is on the infegrafion of the multiple efforts currently underway. Based on the inputs received, new areas of focus, and/or research, may evolve. Identifying and focusing the efforts of the entire community, we can develop an integrated and effective solution to Collective Performance Measurement.

Leveraging on the progress to date in the development of UJTL Measures of Performance, and continuing to use the framework of the UJTL in combination with existing combatant command JMETL tasks, conditions, and standards, data collection and analysis will provide insight as to the validity, relevancy, and reliability. Given the large scope and scale of this process it is vital

that this collection and analysis be done on as broad a front as possible.

By using as many available research resources as possible, we believe the process can make significant strides in providing valuable tools to both the commanders and the senior DOD leadership charged with managing our nations resources. Like many endeavors, this process is a journey, not a destination. We do not believe we will ever be able to define military readiness in terms of objective formulas (A+B+. ..X = Readiness), if for no other reason than at least one of those factors will always be intangible.

However, we do believe that by integrating the process of data collection and analysis of collective performance, we can move significantly toward better and more accurate products in the form of readiness assessment and resource allocation. It is a collective need, and needs a collective effort.

' joint operations--(DOD) A general term to describe military actions conducted by joint forces, or by Service forces in relationships (e.g., support, coordinating authority), which, of themselves, do not create joint forces. joint force--(DOD) A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments, operating under a single joint force commander.

* Valid - the data captured can be analyzed to produce meaningful information. Relevant - the data in fact measures the specific task at the appropriate level-i.e. above the Tactical Level-of-War, synchronization and integration are typically the primary functions, not “number of enemy killed” or “bombs on target”. Reliable - the data must be an accurate reflection of the current situation.

[3] CJCSM 3500.04A - Universal Joint Task List, 13 Sep 1996

[4] Joint Pub l-01 Joint Publication System Joint Doctrine And Joint Tactics, Techniques, And Procedures Development Program 14 September 1993

[5] An excellent discussion of Measures of Performance versus Measures of Effectiveness is contained in PHALANX, Vol.30 No.4, December 1997, http://www.mors.org, article by Noel Sproles, “Identifying Success Through Measures.

[6] CJCS Joint Vision document, page 28

' USACOM is designated CJCS Lead Agent for establishing the Joint War-fighting Experimentation Program

' Products of the JTS include: JMETL (tasks, conditions, standards); task-linked organizations; Joint and Service Component Training Plans; Training Event Schedules; Task Performance Observations (TPO - commonly referred to as Lessons Learned; Training Performance Evaluations (TPE); Training Performance Assessment (TPA).

' Replication versus Simulation-Conventional wisdom recognizes that all activities “other than combat’ are actually simulations, to include “live” or field training events. This is due to the inability to actually replicate conditions encountered in combat (being shot at, for example). However, as the focus of training expands to higher echelon staffs, and technology improves in its ability to provide realistic inputs, the relevant conditions affecting those training audiences can become closer to those actually encountered, i.e. fog/friction of war, limited resources, realistic inputs and outcomes of actions, etc.

However, a better and more articulate Joint Training Manual must reflect the intellectual insights gained since the 1 June 1996 version.

Current intent of the Joint Staff JTS Program Manger, in moving toward the Joint Training System “Plus”, is to begin development of UJTL 5.0 as the first step in providing a “JV 2010 UJTL”.

CJCSM 3500.03, Joint Training Manual for the Armed Forces of the United States, 1 June 1996

See “Report on Validation of Measures of Performance in Support of DoD Anti-Terrorism Program”, conducted by Dynamics Research Corporation (DRC) for the Joint Staff.