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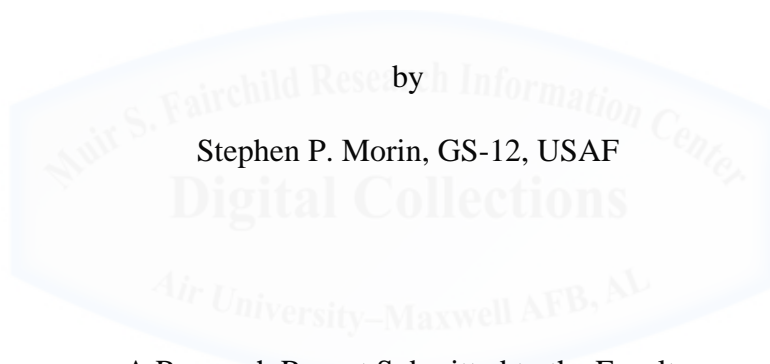
AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

**JUNIOR PURPLE LOG-WARRIORS: JOINT ENTRY-LEVEL
TRAINING FOR LOGISTICS PERSONNEL**

by

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A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

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February 2016

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Preface

During my 22 years of active-duty plus 10 years of civil service in the Air Force logistics community, I have witnessed the U.S. Armed Forces mature from being stand-alone Services postured for the Cold War against the Soviet Union, to becoming cooperative components of combatant commands and joint task forces. Some synergy has been realized from this unity of effort, but a lack of prior joint training and experience before members integrate into the joint environment has detracted from joint effectiveness. Training has eventually been developed after-the-fact to help prepare Services for joint operations, but this training is for mid- and senior-level logisticians, not junior-level logisticians who operate at the tactical and operational levels of war. I chose to research this topic to help identify and evaluate possible options to solve the joint logistics training shortfall.

I extend my sincerest gratitude to my fiancée for her patience and willingness to keep me nourished with fantastic home-cooked meals as I labored most nights and weekends during the seemingly-endless period that I have been taking courses for the ACSC OLMP. I would also like to thank my research advisor Dr. Edward Ouellette for his help in the development of this paper. Without his guidance in altering my research methodology eight weeks ago, this project most likely would not have been completed this term. My deepest appreciation goes out to the logistics subject matter experts from four Services and USTRANSCOM who took the time out from their busy schedules to answer my interview questions and provide candid remarks about their training, joint experience and thoughts on my research proposal. Finally, I want to thank my classmates whose honest feedback and constant professionalism helped shape this project.

Abstract

The future military operating environment will be characterized by increasing uncertainty, change, complexity, and persistent conflict. Department of Defense (DoD) logistics capabilities of the future must exceed today's performance standards, but do so with reduced manning, constrained resources and limited funding. This will require a unity of effort between U.S. logistics capabilities. In order to meet the joint logistics needs of the future, the DoD must determine whether the current education strategies of the Services adequately develop logisticians with the necessary functional skills. This paper asks if the DoD should develop an entry-level joint logistics training program and mandate that junior-logistics personnel from all Services attend in addition to their Service-specific entry-level technical training. Using the evaluation methodology, this research paper identifies and analyzes the benefits and the costs of developing and implementing entry-level joint logistics training for officers, enlisted, and certain government civilians from all Services. Based on the evaluation and analysis of proposed courses of action, this paper recommends the establishment of entry-level logistics training at one centralized logistics campus where members will attend all phases of initial training to include the joint curriculum and Service-specific technical training. This option would have the lowest net cost and would be the most effective in joint integration and development of an institutionalized joint lexicon and common frame of reference. More in-depth research is recommended across all Services to review possible locations for joint training and to further analyze costs to establish and operate the new curriculum and savings that will be realized.

Introduction

The DoD has made great strides to become more streamlined and efficient since the Goldwater-Nichols Department of Defense Reorganization Act of 1986, which directed more joint doctrine, joint training and policy for integrating joint forces. But in an environment with increasing complexity, rapid change, and constant conflict, the DoD's logistics capabilities of the future must exceed today's performance standards, and do so with reduced manning, limited funding and other constrained resources. In order to meet the joint logistics needs of the future, the DoD must determine whether the current education strategies of the Services adequately develop logisticians with the necessary functional skills.

The definition of logistics varies to a great extent between sources, but all descriptions involve the same key capabilities. The military theorist Baron Antoine-Henri Jomini is one of the most celebrated writers on the Napoleonic art of war. He states, "Logistics comprises the means and arrangements which work out the plans of strategy and tactics. Strategy decides where to act; logistics brings the troops to that point."¹ Joint Publication 4-0, *Joint Logistics*, defines logistics in this manner: "Logistics concerns the integration of strategic, operational, and tactical support efforts within the theater, while scheduling the mobilization and movement of forces and materiel to support the (Joint Force Commander's) concept of operations (CONOPS). The relative combat power that military forces can generate against an adversary is constrained by a nation's capability to plan for, gain access to, and deliver forces and materiel to required points of application."²

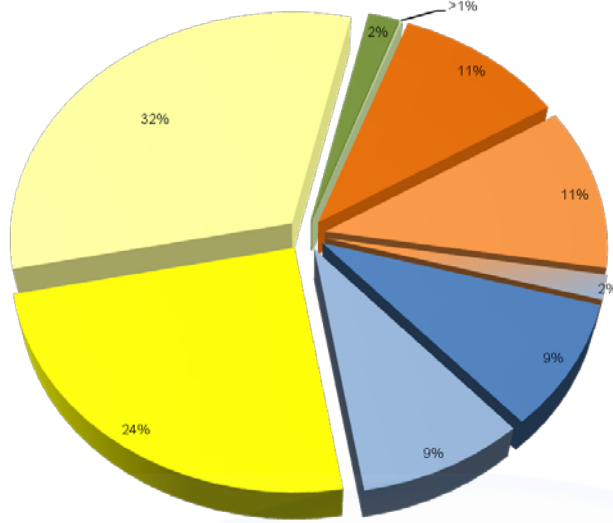
Logisticians analyze the feasibility and sustainability of all campaign plans and integrate logistics support to joint forces during all phases of operations. By having well-trained and educated joint logistics experts on staff, the combatant command (COCOM) and component

staffs can expedite decision-making and operate inside of an enemy's decision-making cycle by compressing planning timelines.³ The DoD Joint Concept for Logistics (JCL) illustrates a common framework for providing logistics support to joint operations and guides development of future logistics capabilities. The JCL "proposes the Joint Logistics Enterprise (JLEnt) to integrate our DoD capabilities...with those from the interagency, multinational, nongovernmental, and commercial world...The JLEnt role is to optimize logistic processes and capabilities, and allocate logistic resources according to national security needs to achieve common goals with our partners."⁴

The DoD Logistics Human Capital Strategy (HCS) was developed in 2008 by the Office of the Secretary of Defense (Logistics and Materiel Readiness). It was written through collaboration across the logistics functional community of the Services, Joint Staff, Defense Logistics Agency (DLA) and United States Transportation Command (USTRANSCOM). The intent was to fulfill the objectives of the President's Management Agenda, the Quadrennial Defense Review (QDR), the DoD Civilian Human Capital Strategic Plan, and the AT&L Human Capital Strategic Plan.⁵ Figure 1 describes the categories of logistics active duty and civilian personnel that are the focus of the Logistics HCS. The vision of the DoD Logistics HCS is "an integrated, agile, and high-performing future workforce of multi-faceted, interchangeable logisticians that succeed in a joint operating environment."⁶ At this time, however, the plan for how this logistics workforce transformation will be executed has not been fully developed or institutionalized. This could be the result of the DoD's focus on training and development of only the top and middle tiers of the logistics workforce rather than the entire workforce as a whole, starting with a bottom-up approach to transformation.

The DoD Logistics functional community comprises nearly 615,000 active duty military and civilian personnel*

Workforce Sizing by Category



	Civ	Mil	Total
Maintenance Support	143,295 24%	199,516 32%	342,811 56%
Supply Management	63,350 11%	72,037 11%	135,387 22%
Cross-Category (SM & D/D/T)		11,012 2%	11,012 2%
Deploy/Dist/Trans	56,194 9%	56,679 9%	112,873 18%
Life Cycle Logistics†	11,664 2%	940 <1%	12,604 2%
	274,503 45%	340,184 55%	614,687 100%

Sources: Defense Civilian Personnel Data System (DCPDS)
Defense Manpower Data Center (DMDC)
Military Services

Notes: * Augmented by over 200,000 Guard/Reserve personnel
† A portion of the Acquisition workforce

Demographics current as Aug 30, 2008

Figure 1: DoD Logistics Functional Community Strength⁷

In all five U.S. Armed Services (Army, Navy, Marines, Air Force and Coast Guard), logistics officers do not normally obtain any form of joint logistics training until they enter their mid- or senior-level career phases. Worse yet, enlisted logisticians and mission-essential civilians may not have any joint training or experience until they deploy or are reassigned to a joint billet where they must integrate with logisticians from other Services. At times, military logistics personnel must work with logisticians not only from sister-Services, but also other government agencies, non-governmental organizations, and other countries. Based on this operational need, some form of standardized joint training at the entry-level is a necessity.

The DoD should develop a joint logistics training program and mandate that all five Services require their junior-logistics personnel (officers, designated enlisted fields and certain civilians) to attend in addition to their Service-specific entry-level technical training. One benefit would be the elimination of redundant training programs in core logistics business fundamentals and competencies that are shared among all five Services. Joint Publication 4-0, *Joint Logistics*, lists the core logistics functions as: deployment and distribution, supply, maintenance operations, logistics services, operational contract support, engineering and health service support.⁸ All Services encompass these functions in some form in their logistics and support career fields. The Services also share common logistics principles such as ethics, stewardship and accountability. Combining this training for all Services would save considerable costs in redundant training.

Another benefit of entry-level joint logistics training would be the development of well-rounded and experienced joint logisticians assigned to COCOMs, joint task forces (JTF), USTRANSCOM and DLA with a common frame of reference and lexicon. A lexicon is a specialized vocabulary and each Service has its own version of a logistics lexicon. Developing a common language between Service logisticians would enable “more rapid and efficient ramp up when teams from multiple Services and/or Agencies must be brought together in a joint environment.”⁹ With this common frame of reference and lexicon, all logistics personnel on the staff would share a common understanding and be able to communicate effectively in a joint work environment.

Finally, joint logistics training would improve rapid integration of JLEnt efforts and joint logistics readiness throughout the range of military operations (ROMO). There would be a more efficient unity of effort – the coordinated application of all U.S. joint, interagency, nongovernmental and multinational logistics capabilities in cooperation toward common

objectives.¹⁰ “The ability to work well within a joint environment will aid in the development of shared perspectives and provide a better understanding of how each Agency contributes to overall mission success...Logisticians, in particular, will need to unify as members of a single workforce rather than by Service or Agency.”¹¹ ROMO covers the operational range from military operations involving combat, security, engagement, and relief and reconstruction activities to humanitarian assistance/disaster relief (HA/DR) operations.

This proposal will create controversy between the Services, arguing, for example, that it is impossible to provide adequate entry-level joint logistics training to allow an Air Force logistics readiness officer with only fuels management experience to replace an Army transportation officer in a Ranger battalion or a Navy supply corps ensign in a fleet. This, however, is not the intent of the proposal. On the contrary, joint logistics training will reinforce each Service’s unique roles and logistics functions while capitalizing on training all Services together in core logistics business fundamentals and competencies which are shared among them. The goal is to gradually develop a leaner, meaner, “purple” force, cut redundancy of training effort, save scarce resources, and increase the efficiency of logistics training and career development leading to joint logisticians prepared for rapid integration.

Using the Evaluation methodology, this paper identifies and analyzes the benefits and the costs of developing and implementing entry-level joint logistics training for officers, enlisted, and certain government civilians from all Services. Within this analysis, three options are considered:¹²

- Option A: One unified joint school with follow-on Service-specific on-site training
- Option B: One unified joint school followed by Service-specific training at each Service’s current logistics training command

- Option C: Both joint logistics training and Service-specific training at current Service logistics training commands; Services would not train together

As one component of the evaluation, five logistics subject matter experts (SMEs) from different Services were interviewed using standardized questions regarding joint logistics training and the three options proposed. SMEs included a government civilian (retired USAF senior NCO logistician) in Air Force Materiel Command, an Army officer in a transportation company, a DoD contractor (retired USAF senior NCO logistician) in USTRANSCOM, a Naval officer in USTRANSCOM, and a Marine Corps logistics officer in the 3d Marine Raider Battalion.

Each of the three proposed options will be evaluated against standardized criteria and grades will be assigned based on how well the option meets the criteria. The results of the evaluation and grading will be analyzed, followed by conclusions and recommendations based on the results of the evaluation.

Background/Literature Review

Current state of Service and joint logistics training

Military logistics personnel currently attend entry-level training at their individual Service logistics training command. The Army trains at Army Logistics University, Ft. Lee, VA. Officers are trained in the Basic Officer Leader Course in one of three main support roles: transportation, ordnance, or quartermaster.¹³ The Navy conducts supply corps officers (“chops”) training at the Wheeler Center Basic Qualification Course, Newport, RI.¹⁴ A Marine Corps logistics officer trains at the Basic Logistics Training of the Marine Corps Combat Service Support School, Camp Lajeune, NC.¹⁵ Air Force officers attend logistics training at the 37th Training Wing (37 TW), Joint Base San Antonio (JBSA), TX. The 37 TW instructs each officer

in one of three initial courses: logistics readiness, financial management and force support.¹⁶

Although the U.S. Coast Guard also trains officers in similar logistics capabilities, it will not be included in the scope of this paper due to the small population of logisticians compared to the other four Services.

Air Force logistics readiness officers (LRO) are trained from entry-level to be generalists rather than subject matter experts in any logistics discipline. In 2002, the Air Force combined logistics plans, supply and transportation officer Air Force specialty codes (AFSC) into the logistics readiness officer AFSC (see figure 2). For the purposes of this research paper, the term Air Force logistics officer refers to the former logistics plans, supply (materiel management to include fuels management) and transportation career fields and does not include aircraft maintenance, munitions/missile maintenance, force support/services, contracting, engineering, or medical. Development of the LRO AFSC has created a field of Air Force logistics officers who are jacks-of-all-trades and masters of none. Unfortunately, this generalization has caused the Air Force logistics officer to be ill-prepared to function at the operational level of war, such as serving as a joint planner on a COCOM staff. This will be discussed further as a component of the joint logistics training problem later in this paper.

Table 5.1
Comparison of Logistics Officer Specialties

Air Force		Army		Marine Corps		Navy	
Aviation, ship, and submarine maintenance							
21A	Aircraft maintenance	15D	Aviation logistics	6002	Aircraft maintenance	144X	Restricted line (engineering duty officer)
				5902	Limited-duty officer (aviation elect maintenance)	152X	Restricted line (aviation maintenance)
						613X	Limited-duty officer (engineering/repair—surface)
						623X	Limited-duty officer (engineering/repair—submarine)
						633X	Limited-duty officer (aviation maintenance)
Ordnance, munition, and missile maintenance							
21M	Munitions and missile maintenance subspecialty	89E	Explosive ordnance disposal	Only warrant officers		616X	Limited-duty officer (ordnance—surface)
21MxC	Nuclear	91A	Maintenance and munitions	Only warrant officers		626X	Limited-duty officer (ordnance—submarine)
						636X	Limited-duty officer (ordnance—aviation)
						648X	Limited-duty officer (explosive ordnance disposal)
Readiness, transportation, and supply							
21R	Logistics readiness	90A	Logistics	0402	Logistics	310X	Staff corps (supply corps)
		88A	Transportation—general	3002	Ground supply	6510	Limited-duty officer (supply corps)
		88B	Traffic management	3502	Motor transport	Subspecialties	
		88C	Marine and terminal operations	6602	Aviation supply	1301	Supply acquisition—distribution
		88D	Motor/rail			1302	Systems inventory management
		92A	Quartermaster—general			1304	Transportation logistics management
		92D	Aerial delivery and material			1305	Retailing
		92F	Petroleum and water			1306	Acquisition and contract management
						1307	Petroleum management

NOTE: Table does not include warrant officer specialties. In addition, there are no subspecialties unless shown. See Raymond E. Conley and Albert A. Robbert, *Air Force Officer Specialty Structure: Reviewing the Fundamentals*, Santa Monica, Calif.: RAND Corporation, TR-637-AF, 2009, p. 28, Table 4.2.

Figure 2: Comparison of Logistics Officer Specialties¹⁷

Enlisted members are trained by the Services in similar roles within the logistics fields. The Army instructs transportation, ordnance, and quartermaster soldiers and warrant officers in the Technical Logistics College of the Army Logistics University. Enlisted logistics sailors are trained in purchasing and supply fields. Enlisted marines train in the financial management, logistics operations, or ground supply specialty. Air Force airmen attend technical training in the fuels, logistics plans, materiel management, or transportation and vehicle management career field. The aerospace maintenance, missile and space systems maintenance, maintenance

management, precision measurement equipment lab and munitions and weapons fields also fall under the logistics umbrella but will not be addressed for the purposes of this paper.

Civilian logisticians, compared to their military counterparts, do not have a formal structured training plan and normally do not attend formal entry-level training. Certain career fields require functional training for certification, but this is the exception, not the rule. Most civilians receive qualification training on-the-job combined with on-line computer based training (CBT) and temporary duty training for specific skill sets such as hazardous cargo certification and aircraft load planning. But the DoD is developing programs to allow more career broadening opportunities and professional certification for the civilian logistics workforce.

The DoD Logistics HCS identified the need for competency-based management of the DoD's civilian logistics workforce. The identified solution was the creation of a Logistics Career Roadmap using a set of core DoD logistics competencies and proficiencies operationalized through a DoD Logistics Career Development Framework (LCDF) across four workforce categories: supply management, maintenance support, deployment/distribution/transportation, and life cycle logistics.¹⁸ The LCDF provides a structured framework of processes, tools, and strategic guidance to enable education, training and development of the logistics workforce. A certification program was developed to support the LCDF by providing a program of recognition defining five levels of professionalism over the course of an individual's career, from entry-level through senior leadership. This program is voluntary, and those who elect to pursue the certification process work to meet standards established by DoD such as education levels, continuing education requirements, and developmental assignments.¹⁹ Although the DoD Logistics HCS vision includes interchangeable logisticians that succeed in a joint operating environment through unity of effort, the LCDF does not address any joint logistics training.

Opportunities for joint logistics training are currently limited. The DoD JCL states that “the broadened range of situations that joint forces will confront will put a premium on the need for all levels of joint logisticians that are able to respond quickly, flexibly, and jointly to the unexpected. The (United States) training and education system will produce those joint logisticians.”²⁰ However, this production of joint logisticians is not happening at all levels.

The majority of courses available in joint logistics are for mid- to senior-level logisticians. The Joint Course on Logistics, taught at the Army Logistics Management College, is for active or reserve O-3 to O-5s, W-3 to W-5s, E-8 to E-9s, and GS-12 to GS/GM-14s. A similar course of the same name is taught at the School of Marine Air Ground Task Force (MAGTF) Logistics, with the same target audience. The Joint Planning Orientation Course (JPOC) is taught by USTRANSCOM to O-2 to O-5s, GS-09s and above, and E-8 to E-9s. Joint logistics courses without rank restrictions are usually for training in joint automated systems such as the Joint Operations Planning and Execution System (JOPES) Action Officer Course (JOAC) and the Joint Flow and Analysis System for Transportation (JFAST) Basic Course offered by USTRANSCOM. The individual Services offer courses that touch on joint logistics operations, but these courses are normally for one Service only. The Army’s College of Professional and Continuing Education offers functional education and training of U.S. Army military and civilian students in the areas of joint, multinational, operational, and strategic level logistics. The second mandatory Air Force logistics officer training course is the ten-day in-residence Logistics Readiness Expeditionary Course (LREC) which provides field grade LROs operational level training for increased responsibility in-garrison as well as positions at the joint level.²¹ The Air Force’s Advanced Logistics Readiness Officer Course (ALROC), until its recent cancellation, prepared mid-level LROs to support agile combat command and control needs of

Air Expeditionary Forces at the staff, joint, and deployed leadership levels, and for deployment in a joint environment to help fill the void in logisticians at the joint level.²²

In July 2009, U.S. Joint Forces Command sponsored a survey of logisticians assigned to all COCOMs. The purpose of the survey was to support a Congressionally-mandated study on the effectiveness and efficiency of joint logistics education and training. There were 239 respondents to the survey from all Services and across a range of military ranks as well as some civilians and contractors. Results of the survey identified very low proficiencies in joint planning processes and a consensus that additional joint logistics education and training was required. Only 27 percent of respondents answered that they had received adequate joint logistics training/education prior to their arrival at the joint assignment. Even worse, only 11 percent stated that their action officers received adequate joint logistics training/education prior to arrival.²³ This joint logistics void was also identified in government reports on recent military operations.

Government studies on logistics effectiveness in ONE/OEF/OIF

Several government reports and studies on Operations NOBLE EAGLE (ONE), ENDURING FREEDOM (OEF) and IRAQI FREEDOM (OIF) specifically addressed joint training and logistics effectiveness. The Air Force's Installations and Logistics Lessons Learned report on ONE and OEF emphasized the need to establish regular training within the joint environment, training with special operations forces, and exercises and training for liaison officers for placement in joint and coalition positions. "(Agile combat support) training in joint and combined operations is needed across functional areas to achieve interoperability as well as the need to establish a more formalized training program for coalition operations."²⁴ The report stated that forces were not adequately trained to perform their missions and that personnel were

forced to learn on the job.²⁵ This report identified a lack of knowledge about procedures, confusion regarding joint responsibilities, and a lack of a concept of operations for joint forces interaction.²⁶ Other concerns included time-phased force deployment data production, war reserve materiel processes, and inadequate in-transit visibility, fuels planning and site surveys, all of which are part of the education and training program of today's Air Force logistician.²⁷

Reports on logistics effectiveness in OIF identified similar shortfalls due to training and experience. The Government Accountability Office found that military personnel were not adequately trained in logistics functions, such as operating theater logistics centers.²⁸ In the *Objective Assessment of Logistics in Iraq*, the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics stated, "Leadership must recognize that the growth and development of joint logisticians who can operate and lead effectively in the theater environment will take time and effort, potentially altering established career progression plans."²⁹ These government reports on ONE, OEF and OIF revealed and officially documented the need for earlier and more in-depth joint logistics training for all Services to correct the problems identified in previous joint operations and coalition operations. The need for joint logistics expertise will become even greater in future operations.

Joint logistics requirements in the future

The joint logistician supports the Joint Force Commander (JFC) in achieving situational awareness to make decisions and execute directives. "Maintaining situational awareness requires maintaining visibility over the status and location of resources, over the current and future requirements of the force, and over the joint and component processes that deliver support to the joint force."³⁰ Joint logisticians operate the joint deployment and distribution enterprise (JDDE) which includes equipment, procedures, doctrine, technical connectivity, information,

organizations, facilities, training, and materiel necessary to conduct joint deployment and distribution operations. The JDDE is a critical part of the JLEnt.³¹

The future operating environment will be characterized by increasing uncertainty, change, complexity, and persistent conflict. The JFC will conduct simultaneous and conflicting activities in this environment. JFCs will rely more on partnerships with multinational, interagency, nongovernmental, and contracted capabilities. To further complicate matters, the DoD will continue to compete for “scarce dollars as constraints on resources grow and other agencies also stake their claims for resources based on the whole of government approach to crisis management.”³²

In light of this challenging future environment, the JLEnt proposed by the DoD JCL is needed to integrate DoD core logistics functions with other agencies, coalition partners and other logistics providers. The joint logistician’s role will become even more critical in this complex future operating environment. Now is the time for individual Services to revise the manner in which logistics personnel are trained to guarantee a competent joint logistics force is available when called upon.

Operations OEF and OIF made joint force deployments a standard occurrence. OEF and OIF placed great demands on the U.S. Army and Marine Corps and tasked them beyond authorized and assigned manning levels. This created a requirement for other Services to fill Army expeditionary requirements. “Since 2004, requests from the combatant commander of U.S. Central Command (USCENTCOM) to fulfill some so-called ‘emergent’ requirements have been beyond what the ‘preferred provider’ (generally the Army but in some cases the Marine Corps) can meet, and as a result, other Services have been tasked to fill them.”³³

The Air Force has filled many of these “joint sourcing” assignments; from 2004 to 2008, Air Force joint sourcing requirements increased from 1,900 to more than 6,000 personnel positions. Some Air Force logistics AFSCs such as LROs and transportation personnel have been in high demand to fill joint sourcing requirements.³⁴ The Air Force refers to this type of non-standard force solution as a Joint Expeditionary Tasking (JET).³⁵ Another form of joint tasking is the Individual Augmentee (IA). As an IA, a Service member is tasked to fill a JTF, COCOM or other headquarters staff position where the member performs a function that is different than what they have been trained to do at home station. These IA positions are sometimes for backfill purposes, but are normally for emerging requirements and joint organizations with a specific, limited mission such as the Periodic Review Secretariat which develops and administers the periodic review process for eligible Guantanamo Bay detainees.

Although contingency operations, and therefore forward deployments, for all Services have been scaled down in the USCENTCOM area of responsibility (AOR) since 2008, joint taskings continue. In calendar year 2015, 1,071 (2.3 percent) of Air Force deployment taskings supporting USCENTCOM plans were coded as JET taskings and 1,321 (2.9 percent) were IAs. Additionally, 4.7 percent of USCENTCOM taskings in 2015 were coded as joint force taskings rather than an individual Service.³⁶ These joint taskings were in addition to the Air Force joint sourcing taskings, meaning that at least 7 percent of all taskings were to a joint environment. Many deployed personnel end up working with other Services when deployed although their taskings are not officially coded as joint, so the actual percentage of deployment taskings that work in a joint environment is even higher.

A Rand study on managing Air Force JET taskings found that JET Airmen were often required to perform functions in the deployed environment that were not part of their normal

AFSC. More importantly, they usually had not been trained to perform the required functions prior to deployment. This was often due to the differences in specialization and training between the Services. Figure 2 shows that the Army logistics officer field is much broader than the Air Force LRO AFSC. If a quartermaster position could not be filled by the Army, the COCOM might submit a request for forces (RFF) for an Air Force LRO. However, while the LRO field includes broad logistics responsibilities, only certain LROs would be qualified to perform quartermaster duties.³⁷ To obtain qualifications comparable to an Army quartermaster, an Air Force LRO would have to be trained in the core competencies of materiel management and distribution and serve a minimum of 12 months in each competency before being awarded the two special experience identifiers (SEI).

Although it is impossible to predict future joint contingency requirements with any certainty, United States national security and military strategies continue to call for greater agility, innovation and integration to be prepared for increasing uncertainty, change, complexity, and conflict. The National Military Strategy of 2015 provides three National Military Objectives: to deter, deny, and defeat state adversaries; to disrupt, degrade, and defeat violent extremist organizations; and to strengthen our global network of allies and partners by conducting globally integrated operations.³⁸ The United States will continue to apply the military instrument of power against both state and non-state threats, including prolonged conflicts requiring global force projection and sustainment, core competencies of the joint logistician. “The logistics challenge in the future operational environment will be to anticipate and meet all joint logistic requirements before they become operational shortfalls... We must learn how the joint force can leverage its capabilities in such a way as to create intractable military and strategic dilemmas for

adversaries so they avoid challenging the (United States) altogether or are swiftly defeated should they attempt to engage.”³⁹

In light of the National Military Objectives and continuing global threat, it is logical to predict that joint logistics requirements will increase in the future. Joint staff requirements should remain fairly constant, with logisticians from all Services being assigned to the Joint Chiefs of Staff J4 (logistics) directorate, USTRANSCOM, and DLA billets. In addition to these joint assignments, contingency requirements at the strategic, operational and tactical levels should increase as the DoD continues to integrate its logistics forces into a robust JLEnt for greater synergy and effectiveness in asymmetrical warfare and other military operations.

Examples of successful entry-level joint training

There are already examples of successful merging of entry-level training between Services in some functional communities. The Naval Air Training Command and the Air Force’s Air Education and Training Command combined flight training programs, eliminating redundant training and saving costs as a result.⁴⁰ But the joint medical community is the best example of a successful, synergistic shift to joint entry-level training. Since 1972, the Uniformed Services University of the Health Sciences in Bethesda, Maryland has prepared both military and Uniformed Public Health Service medical officers in one location using a general program of study.⁴¹ “The mission of the Uniformed Services University of the Health Sciences is to educate, train and prepare uniformed Services health professionals, officers and leaders to directly support the Military Health System, the National Security and National Defense Strategies of the United States and the readiness of our Armed Forces.”⁴²

Methodology

Discussion of evaluation framework

This research paper will employ an evaluation framework to evaluate the proposed courses of action (COA) to solve the identified shortfalls in joint logistics training. For the scope of this paper, “joint logistics training” will encompass the following core logistics functions: logistics officer/LRO, transportation, supply/quartermaster, and logistics/contingency planner. The evaluation will be based on standardized grading criteria. Each of the three COAs will be evaluated against the same criteria and grades will be assigned based on how well the COAs meet the criteria. After grading is completed, the results will be analyzed and conclusions and recommendations will be developed based on the results of the standardized grading.

Standardized grading criteria to evaluate proposal

COAs

- COA 1: One unified joint logistics school with follow-on Service-specific on-site training – one central logistics campus location. The order of the training could be reversed; under this COA, trainees could attend their modified Service-specific specialty training first, and then attend the joint logistics course.

- COA 2: One unified joint logistics school (at one Service’s logistics training command) followed by Service-specific training at each Service’s current logistics training command – four logistics training commands continue operation. As stated in COA 1, the order of the training could be reversed with trainees attending their modified Service-specific training first, and then traveling to the joint logistics school.

- COA 3: Teach both joint logistics training and modified Service-specific training at current Service logistics training commands; Services would not train together – four logistics

training commands continue current operations with addition of entry-level joint logistics curriculum at each training command.

Standardized Criteria and Grading

- Criterion A: How well would the COA improve rapid joint logistics integration and help develop well-rounded logisticians with a common frame of reference and lexicon between all Services?

Assign rating of 1 = Less than envisioned by DoD JCL and DoD Logistics HCS;

3 = Satisfactory as compared to JCL JLEnt and HCS goals; 5 = Meets or exceeds goals

- Criterion B: Did the Service SMEs choose the COA as the best of the three options?

Assign rating of 0 = None; 1 = One SME; 2 = Two SMEs; 3 = Three SMEs; 4 = Four SMEs

- Criterion C: Estimated costs

X = Estimated annual cost to operate new entry-level joint logistics training

Y = Estimated annual travel costs for travel to Service-specific training

Z = Estimated annual costs saved by eliminating redundant logistics training

$X + Y - Z$ = Overall cost of implementation after one year

After estimated costs of the three COAs are calculated, the lowest cost will be assigned a rating of 10. The middle cost option will receive a rating of 5, and the highest cost will be rated with 1.

Analysis

The ratings from criteria A, B and C will be added and the results will be analyzed. The COA with the highest overall grade will be recommended for implementation unless other factors or concerns require further evaluation.

Evaluation and Analysis

Evaluation against standardized criteria

Each of the three COAs for entry-level joint training was evaluated against the standardized criteria described above. Criterion A asked how well the COA would improve rapid joint logistics integration and help develop well-rounded logisticians with a common frame of reference and lexicon between all Services. Evaluation against this criterion admittedly involved a bit of speculation, but an exact prediction was not required to arrive at a valid evaluation. The COAs only had to be evaluated against the criterion in relation to one another.

COA 1 involved officer, enlisted, and certain civilian logisticians from all Services attending one entry-level joint training school. For the purposes of this evaluation, Ft. Lee, VA was selected as the central logistics campus because it is the current location of the Army Logistics University and has an extensive campus for joint logistics academics. Deciding the actual feasibility of a location was outside the scope of this research paper. The joint logistics curriculum would include some general logistics classes for all students. In other segments of the course, trainees would split up into their applicable core logistics disciplines (logistics officer/management, transportation, supply, logistics planner) for more career-specific training, but still focusing on a joint operating environment. Joint logistics training would include exercises simulating joint integration in an operational environment. After graduating from the joint logistics curriculum, trainees would then attend separate Service-specific follow-on training at the same location (Ft. Lee for the purposes of evaluation). This training would be taught by staff from the applicable Service and would provide the technical training required to prepare the trainees for their first assignment.

This COA would be very effective at improving rapid joint logistics integration and helping to develop well-rounded logisticians with a common frame of reference and lexicon. Learning military logistics with a joint perspective at the dawn of their careers would give the trainees a “big picture” understanding of how the Service components operate in a joint environment under a COCOM or JFC. Training in the same classroom with sister-Service students would not only help them adopt a common frame of reference and lexicon in an academic sense, but would allow them to discuss their similarities and differences with sister-Service members, helping them to better appreciate the missions of the other Services and the common core logistics functions. Training together and getting to know other trainees as individuals would build a team mentality and joint esprit de corps, leading to more rapid joint logistics integration and better synergy when these members were eventually required to operate in a joint environment. This would bring to reality the vision of the Joint Logistics White Paper: “Joint integration must be achieved routinely at lower echelons—down to every contributing process...Continued movement towards lower echelon joint synergy will require JLEnt education and training...Joint synergy at the lowest levels becomes more effective through sharing common goals and encouraging subordinate initiative.”⁴³

COA 2 would begin identical to COA 1, with all logistics students training together at one joint logistics campus. However, after graduating from the joint logistics curriculum, trainees would travel to their individual Service training commands to attend separate Service-specific follow-on training, completing technical training prior to their first assignment. This COA would be less effective than COA 1 at meeting the requirements of Criterion A. This is because the trainees would spend much less time learning in a joint classroom and bonding with counterparts from other Services. In COA 1, even when students graduated the joint logistics

curriculum and started their Service-specific follow-on training, they might spend off-duty time with logisticians from other Services whom they had become friends with during joint training. Although they had gained an understanding and appreciation for the other Services and made personal connections outside their branch of Service, this would not be reinforced as much in COA 2, leading to less of a team mentality once the trainees became immersed in their follow-on training with their own Service.

In COA 3, the four Service logistics training commands would continue current operations with the addition of the entry-level joint logistics curriculum added to Service-specific training. This COA would be the least effective of the three at meeting the requirements of Criterion A. The joint logistics curriculum would give the trainees a “big picture” understanding of how the Service components operate in a joint environment, just as in the other COAs. If the curriculum were successful, the trainees could gain a common frame of reference and lexicon with the other Services. But there would be no interaction with counterparts from the sister-Services, preventing a deeper understanding and appreciation for the missions of the other Services and real-world experience in integration between Services. No bonds would be formed between sister-Service logisticians, and the joint training would be strictly academic in nature. The joint logistics curriculum could be designed to include a joint virtual classroom using teleconferencing and other options afforded by technology. This would provide some interaction between Service logisticians, but would not allow for the in-person interaction of the other options. COA 3 would provide the least assurance of rapid joint logistics integration when required because the logisticians would have never had previous experience working with sister-Service logisticians and bonding with them on a personal level.

Next in the evaluation, the COAs were assessed against Criterion B which asked if the interviewed Service logistics SMEs chose the COA as the best of the three options. If the SME did not agree that there was a need for joint entry-level logistics training, there would be no COA rating for that SME. The sample group of Service SMEs was non-random and was much too small to calculate statistics and make extrapolations from the sample to the population of all logistics personnel across the Services. The author's goal was to interview at least one SME from each Service, ensuring they represented a range of experience levels and echelons.

LCDR Geno Dawson, U.S. Navy, was one logistics SME interviewed. LCDR Dawson has 14 years logistics experience and is currently assigned to USTRANSCOM. He served on three ships as a supply officer, and was deployed to Al Asad, Iraq before his assignment to USTRANSCOM. His entry-level logistics training was at the six-month Navy Supply Corps School which covered all core logistics functions to prepare him for his first assignment. He completed Joint Professional Military Education (JPME) 1 and 2, but did not attend any formal joint logistics training. LCDR Dawson was not required to integrate with other Service logisticians until his assignment to USTRANSCOM.

From his Navy perspective, he disagreed that a joint logistics training program should be mandated to all five Services at the start of their careers. He stated that he was in the Navy 22 years before his first joint assignment. "I will admit that I felt a little behind the power curve after arriving at TRANSCOM over two years ago, but I'm not convinced that if I would have learned about Army lighterage (process of transferring cargo between vessels of different sizes), or how they call forward cargo from their staging area 14 years ago at my first logistics training, for example, I would have been better off here."⁴⁴ Although LCDR didn't see the value of entry-

level joint training based on his career experiences, the SMEs who had more joint duty or deployment experience had a different view.

Mr. Randall Jeffries is the Command Deployments Manager for Air Force Materiel Command (AFMC), Wright-Patterson AFB, OH. He has 26 years of logistics experience including an active duty career in supply/materiel management and then logistics plans, followed by civil service at AFMC after military retirement. His entry-level logistics training consisted of six-weeks technical training for supply for Apprentice level followed by on-the-job training (OJT) and the career development course (CDC) at his first base for his Journeyman level. The only joint logistics training he received was in the Air Force Institute of Technology (AFIT) courses LOG099, LOG199, LOG299, LOG499, and the Air University Contingency Wartime Planners Course (CWPC). All these courses touch on joint operations but are predominantly for Air Force members only. Early in his career, he worked in joint logistics environments while assigned to Pacific Air Forces (PACAF) and interacted with joint logistics personnel assigned to Pacific Command (PACOM)/J4. He understood joint logistics concepts but lacked actual hands-on experience.

Mr. Jeffries believes there is a benefit to developing a joint logistics training program for junior personnel. He states, “what I think would be of import to junior military personnel is to know and study how the different Services are organized from the HHQ to unit level, as well as unified/combatant command organization. Such training could delve into joint information systems too, for example JOPES, GATES, ICODES, IGC, DLA systems, etc.”⁴⁵ Mr. Jeffries believes COA 1 would be the best option based on benefits to the joint logistics enterprise, potential costs incurred standing up a new program, and potential costs saved by eliminating redundant training programs.

Mr. Gordon Miller is a logistics SME with an extensive and varied background. He was an Air Force traffic management specialist and then a logistics planner during his military career. He is currently a DoD contractor in USTRANSCOM and has a total of 25 years logistics experience. Mr. Miller's entry-level training consisted of six weeks of Air Force technical training for Apprentice level followed by OJT and CDCs at his first assignment for his Journeyman level. His only formal joint logistics training included CWPC and a CD-ROM that was a primer for joint operations and an introduction to JOPES. Mr. Miller related to the author that, "Training was more concerned with understanding how strategic policy was developed and where and how it integrated with the Air Force...The majority of my joint training in logistics and operations was either OJT or what I personally gleaned from reading joint and (Chairman Joint Chiefs of Staff) CJCS publications on policy and doctrine."⁴⁶

While in uniform, Mr. Miller had seven occasions when he integrated with other Service or allied nation logisticians during temporary duty assignments. This is a prime example of why joint entry-level training is needed to enable success in the JLEnt. During a deployment to Dhahran AB, Saudi Arabia, he had to work with Army personnel to package and ship unit equipment back to home station. He also worked closely with senior port authorities at Dhahran Seaport to facilitate the clearance and movement of containers containing U.S. equipment. He admitted that none of his previous training had prepared him for this type of interaction with civilian and foreign personnel. Later deployments took him to Tazar AB, Hungary, Ali Al Salem AB, Kuwait, and Al Udeid AB, Qatar where he interfaced with U.S. Army, U.S. Marine Corps, civilian contractors, and foreign nationals. At Al Udeid, his duties took him beyond the tactical level to developing Acquisition and Cross Servicing Agreements (ACSA) with host nations negotiated by the State Department and DoD. This is a duty for deployed LROs and logistics

planners, and there is no specific training prior to assuming this duty. Mr. Miller later deployed to U.S. European Command (USEUCOM) in Stuttgart, Germany, where he worked daily with all Services in the coordination and monitoring of the deployment, reception and transiting of forces. Finally, he had two joint deployments supporting USTRANSCOM where he worked with all branches of Service in planning, executing, and monitoring the deployment of forces globally. Mr. Miller stated, “In order to understand how the roles and responsibilities of joint operations worked, I had to assimilate the theoretical knowledge I had learned from reading with practical experience I had gained from on-the-job operations.”⁴⁷

Mr. Miller believes there is a benefit to establishing entry-level joint logistics training. “In today’s environment, there is more interaction between Services and foreign militaries. By attending joint training it will expose junior enlisted and officers to other branches of Service and inform them on how the Services conduct logistics. It will also inform them on how as a nation, senior leaders develop and plan to execute operations. Ideally, it provides an introduction to joint planning at a basic level, a couple of simple interactive exercises and then specific training that pertains to the logistics discipline, i.e. transportation, maintenance, supply, etc.”⁴⁸ As junior logisticians become senior leaders, the changes in “joint thinking” will eventually become institutionalized where efficiencies are gained in centralizing and merging of disciplines. “The added benefit is that cost efficiencies are gained and with the reduction in defense budgeting, this would support the continued level of excellence required to achieve DoD objectives.”⁴⁹ Mr. Miller believes COA 2 is the best choice (one unified joint logistics school plus Service-specific training at each Service’s current logistics training command).

MAJ William Armstrong, U.S. Army Reserve, was interviewed for the Army perspective. MAJ Armstrong is a Plans and Operations Officer, TM 4, Expeditionary Rail Center. He has 20

years of civilian logistics experience and 13 years of military logistics. His initial “logistical” training took place at Ft. Jackson, SC at the Soldier Support Institute. His class was given four weeks of postal training on how to process, prepare and transport USPS mail across the world. The training provided a basic foundation, but the real learning began when he had boots-on-ground in Iraq and Afghanistan. He served as the Postal Platoon Leader, LSA Anaconda, Iraq where he provided and improved the efficiency of postal support to bases in central Iraq. A year later, he served as a defense contractor in Baghdad, Iraq, assigned to assist with the transition from military-run post offices to civilian post offices. The next year, MAJ Armstrong deployed to Sharana, Afghanistan, as a “Naval Army Postal Officer.” He was assigned to the first ever Naval postal platoon supporting about 15,000 U.S. troops operating on roughly 20 to 25 bases. He convoyed and flew to various bases improving and/or establishing postal support. When asked if his previous training adequately prepared him for integration with other Services, his answer was, “That’s funny. Does training from other countries count? Honestly, it was all on-the-job training and also learning from the Soldiers who had deployed before me...I got off the plane in 2009 in Bagram, Afghanistan where my commanding officer said ‘Congratulations. You just joined the Navy.’”⁵⁰ He stated he never had any joint logistics training “unless you count learning under fire in combat zones.”⁵¹

MAJ Armstrong sees a benefit to developing a joint logistics training program and mandating that all Services require their junior logistics personnel to attend in addition to their Service-specific entry-level technical training. He believes the new joint load planning system, Integrated Computerized Deployment System (ICODES), is helping to bring all branches together. ICODES provides multi-modal (ship, aircraft, truck, rail and yard) load planning to all DoD Services and agencies. MAJ Armstrong stated that ICODES is helping the Services to

understand each other's logistical language, i.e., a common lexicon. He is an advocate for COA 2, but recommended the flow of training be reversed so that the trainees first attend Service-specific training at each Service's current logistics training command followed by one unified joint logistics school.

Capt Robert Meintzer, U.S. Marine Corps, was interviewed for the Marine Corps and Special Operations Forces (SOF) viewpoints. Capt Meintzer has five years of experience in logistics and is the Logistics Support Team Officer in Charge (OIC), Marine Special Operations Company K, 3d Marine Raider Battalion. At the time of the interview, he was deployed as the J4, Team Libya, Special Operations Command – Africa. As with all Marine Corps logistics officers (0402s), he attended the Marine Corps' Logistics Operations Course (LOC) in Camp Lejeune, NC. The three month course focuses on the six functions of logistics and is designed to prepare logistics officers for junior logistics officer billets across the MAGTF to include motor transport platoon and engineering platoon commanders, battalion S-4 or assistant S-4 officers, maintenance management officers, landing support platoon commanders, and embarkation officers. Moreover, the course in recent years has taken a key role in preparing logistics officers for mounted operations in support of convoy operations in the Middle East. LOC is designed to provide "wave top level" information to students in order to give them a basic understanding of the many billets that they may be assigned once they enter the operational forces. "LOC provides the initial stepping stone to help young logistics officers know what to expect, where to seek Marine Corps doctrine and processes, and provides a professional network for young logisticians to seek help once they enter the fleet."⁵²

He received minimal training to work in a joint logistics environment aside from Marine Special Operations Command's (MARSOC) one-week seminar that provided an initial

understanding and promoted further research and development. MARSOC's Marine Special Operations Forces (MARSOF) Logistics Seminar was developed over the past two years in hopes of promulgating basic joint logistics doctrine and concepts that will assist logisticians during a joint SOF deployment. Capt Meintzer also attended the two-week Special Operations Planning Course hosted by the Joint Special Operations University (JSOU) in Tampa, Florida. This course is designed to introduce the Joint Operations Planning Process (JOPP) but also provides an environment to work alongside other SOF logisticians from Naval Special Warfare, U.S. Army Special Operations Command (USASOC), and Air Force Special Operations Command (AFSOC). At the time of the interview, his only experience working with logisticians from other Services had been with Special Operations Command – Africa (SOCAFRICA) while serving as the Team Libya J4. His day-to-day operations required him to work with Special Operations Command Forward – North and West Africa (SOCFWD-NWA) and SOCAFRICA logisticians from the Marine Corps, Navy, Army, and Air Force. He recounted that his formal training had little impact on his ability to work in a joint environment. A preponderance of his preparation came from working in a logistics-intensive environment prior to deployment.

From a Marine Corps standpoint, Capt Meintzer does not think that an entry-level joint logistics program should be mandatory for junior officers as they should be focused on becoming experts in Service-specific logistics and entry-level management of platoon/company/battalion-level evolutions. He believes O-3s from each of the Services should be afforded the opportunity to go to a joint logistics seminar hosted in multiple locations across the country with a focus on each Service and its logistics capabilities. The seminar would have to have the right blend of instructors from each Service, to include U.S. Special Operations Command. The seminar would focus on key aspects of serving in joint billets and historical examples, and students would

receive helpful playbooks and publications from each Service and participate in a joint exercise to help reinforce the topics and promulgate further learning. This seminar could be mandatory for promotion to Major. He believes that for enlisted personnel, only E-7 and above should be offered the course as it needs to focus on the management level for officers and headquarters staff-level non-commissioned officers. “A joint logistics course for enlisted Marines between the ranks of E1 and E6 would not benefit the Marine and only take away time that they need to be learning their job in the operational forces.”⁵³ He recommends one unified joint course after Service-specific training and at least three years OJT in the operational forces. This would allow students to bring experience to the seminar or course and further build their logistics expertise. The unified school could conduct Mobile Training Teams across the United States to make it easier for officers from all Services to attend the training.

In the final criterion of the evaluation, the estimated costs of the three COAs were evaluated. In order to estimate and compare the costs, the average current cost to train a logistician had to first be calculated. To simplify calculations, this criterion’s scope was limited to logistics officers of all four Services with the assumption that the COA with the lowest cost for officers would also be the lowest cost with enlisted and civilian logisticians added to the training.

The entry-level training cost for logistics officers varied greatly between Services. The most expensive variable was the cost of operating and maintaining the training commands (salaries, installation maintenance and base operating support). The Air Force estimated that in fiscal year 2012, a LRO cost \$27,514 to train over 22 weeks.⁵⁴ Around 150 LROs were trained per year. The Naval Center for Cost Analysis calculated an estimated \$13,500 to train a Navy supply corps officer over 22 weeks with 380 officers trained annually.⁵⁵ The Army’s Analysis

Installation and Personnel Costing Division quoted a cost as low as \$1,623 to train a new quartermaster. But with other benefits, pays, initial officer acquisition and support costs factored in, a quartermaster could cost \$124,780 to train.⁵⁶ The Army trained 900 logistics officers annually, but this included National Guard and Army Reserve. Since the Army training cost could not be clearly determined based on source data, the author used the Air Force estimate (highest cost identified among all Services) of \$1,251 per week per officer to arrive at a cost of \$18,765 to train one Army officer over 15 weeks. The Marine Corps trained 200 logistics officers per year in training lasting 55 days (11 weeks). The author could not find a current estimate for this training, so the cost was calculated at one-half of the Navy cost (11 weeks vs. 22 weeks), equaling \$6,750 to train a logistics officer. Based on these figures, the author calculated the average training cost per logistics officer: \$27,495,600 (sum of total costs per Service) / 1630 officers = \$16,868 per logistics officer. The average cost per week per officer was then calculated by dividing \$16,868 by the average length of training between the Services, 17.5 weeks, arriving at \$964. See table 1 for a summary of these current costs.

	Cost / Officer	Officers / Year	Length of Training	Cost / Wk / Officer	Total Cost per Year
USAF	\$27,514	150	22 Wks	\$1,251	\$4,127,100
USA	\$18,765 *	900	15 Wks	\$1,251 *	16,888,500 *
USN	\$13,500	380	22 Wks	\$614	\$5,130,000
USMC	\$6,750 *	200	11 Wks	\$614 *	\$1,350,000 *
Total		1630			\$27,495,600
Average	\$16,868		17.5 Wks	\$964	

* Estimated by author based on source data

Table 1: Current Logistics Officer Training Costs

The costs involved with COA 1 were estimated based on criterion C including factors X, Y and Z. This COA included the stand-up of one unified joint logistics school at the logistics campus at Ft. Lee with the four follow-on Service-specific logistics courses also taught at Ft. Lee. As stated earlier, the joint logistics curriculum would include some general logistics classes for all logisticians plus break-outs into the core logistics disciplines for more career-specific training and exercises, still focusing on a joint operating environment. Because instructional system development of the joint curriculum was beyond the scope of this research paper, a planning factor of eight weeks was estimated for the purposes of calculating and comparing costs. Using the previously calculated average training cost per week of \$964 per officer x eight weeks x 1,630 officers, the estimated annual cost to operate the new entry-level joint logistics training would be \$12,570,560 (X). For COA 1, there would be no costs to travel to Service-specific training (Y) because the Air Force, Navy and Marine Corps entry-level courses would be moved to Ft. Lee where most Army logisticians already attend training. This COA would include one-time costs to move Service-specific instructors and equipment to Ft. Lee as part of the initial stand-up.

The costs to stand-up and operate the new joint training would be offset by savings realized. The costs for Service-specific training would be reduced by eight weeks, assuming that this period of the legacy Service courses would be absorbed in joint training. Using the current weekly costs from Table 1, this would equate to annual savings of \$1,501,200 for Air Force, \$9,007,200 for Army, \$1,866,560 for Navy, and \$982,400 for the Marines. Totaled, this would be an overall savings of \$13,357,360 annually. In this COA, there would also be a reduction of costs due to the elimination of redundancy by combining the Service-specific training at one location. Certain salaries would be saved due to the synergy available by combining four

different Service training teams at one logistics campus because some staff members could support multiple Services plus the joint course. Additionally, costs for installation facilities such as operations, maintenance and repair, custodial services, computers and communications support, utilities, administrative support, and other base operating support would be reduced due to the consolidation from four bases to one. This savings was calculated at 50 percent of the current Service costs for the remaining weeks of Service-specific training for the three Services moving to Ft. Lee. The Air Force would save \$1,313,550 annually for their 14 weeks of Service-specific training for 150 officers. For the Navy, 14 weeks for 380 officers would amount to a savings of \$1,633,240. The Marine Corps savings for eight weeks of training for 200 officers would be \$184,200. For all Services, therefore, the annual savings for elimination of redundant costs would equal \$3,130,990 per year. Adding the two sums for savings would result in \$16,488,350 (Z).

In COA 2, one unified joint logistics school would be established at Ft. Lee, but Service-specific training would not be relocated from each Service's current logistics training command. This would require Air Force, Navy and Marine Corps students to travel between joint training and Service courses. COA 2 and COA 1 would have the same estimated annual cost to operate the new entry-level joint logistics training: \$12,570,560 (X). Similar to COA 1, each Service-specific course would be reduced by eight weeks of material covered in the joint training, equating to an overall savings of \$13,357,360 annually (Z). However, there would be no additional savings due to the elimination of redundant operating costs because the Service-specific training would continue operations at four different bases.

Travel costs were estimated by building hypothetical travel orders in the Defense Travel System. Air Force officers would depart Ft. Lee and fly from Richmond VA to San Antonio TX

for their Service-specific training at JBSA. One-way airfare would currently cost \$165 plus a \$14 travel agency service charge. The officer would also earn \$48 in meals and incidental expenses (M&IE) for the travel day for a total cost of \$227. Multiplied by 150 officers per year, the total annual cost would be \$34,050. Naval officers would travel to Providence RI for their continuing training in Newport. With airfare to Providence at \$153, a \$14 service charge and M&IE of \$44, the cost for travel would be \$211. For 380 officers to travel each year, the total Navy travel costs would be \$80,180 annually. Marine Corps logisticians would fly from Richmond VA to Greensboro NC and report to Camp Lejeune USMCB. Airfare of \$230, the \$14 service charge and \$38 for M&IE would add up to \$282 for one officer's travel. Multiplied by 200 Marines per year, the annual cost would be \$56,400. With the costs for the three Services totaled, the annual travel costs for COA 2 would be \$170,630.

In the COA 3 scenario, the four Service logistics training commands would continue operations at their current locations with the addition of the entry-level joint logistics curriculum added to Service-specific training. Continuing with the same assumptions as COA 1 and 2 for the purpose of estimating costs, the joint logistics curriculum would last eight weeks for each Service, and the Service-specific training would be reduced by eight weeks. Stand-up of the joint logistics course at four separate locations would require additional staff, facility space, equipment and supplies at each location. Costs, therefore, would be higher than COA 1 or 2 for joint logistics curriculum salaries, installation common use facilities operations, maintenance and repair, custodial services, computers and communications support, utilities, administrative support, and other base operating support. To account for the increased costs, the estimated annual cost to operate the new joint logistics training was increased by 50 percent ($\$12,570,560 + \$6,285,280 = \$18,855,840$ (X)). There would be no extra travel costs because logisticians

would complete all entry-level training in the same location (Y). Similar to COA 1 and 2, each Service-specific course would be reduced by eight weeks replaced by the joint training, equating to an overall savings of \$13,357,360 annually (Z).

Grading and analysis of results based on evaluation

After the three COAs were evaluated against the standardized criteria, they were then graded for each criterion (A, B and C) and the results were analyzed. As illustrated in Table 2 below, COA 1 was graded highest for criterion A (Joint Integration) while COA 2 had the highest grade for criterion B (SME Review). In criterion C (Costs), COA 1 had the highest grade. When grades were totaled, COA 1 had the highest overall grade and is therefore recommended for implementation.

Evaluation Criteria	Weight	COA #1		COA #2		COA#3	
		Score	Weighted	Score	Weighted	Score	Weighted
A: Joint Integration	3	5	15	3	9	1	3
B: SME Review	2	1	2	2	4	0	0
Sub-Total			17		13		3
C: Costs							
		Cost	Score	Cost	Score	Cost	Score
X		12,570,560		12,570,560		18,855,840	
Y		0		170,630		0	
Z		16,488,350		13,357,360		13,357,360	
X +Y- Z	Note	- 3,917,790	10	- 616,170	5	5,498,480	1
Total Grade:			27		18		4

Note: In criterion C, the lowest overall cost was assigned a weighted rating of 10. The middle cost received a rating of 5, and the highest cost was rated with 1.

Table 2: Grading of Evaluation Results

Conclusion/Recommendation

Conclusions

In future operations, JFCs will rely more on integration between interservice, interagency, multinational, nongovernmental and contracted logistics capabilities while resources continue to become more constrained. Joint logisticians support the JFC by operating the JDDE which is a critical part of the JLEnt. Government studies on logistics effectiveness in recent contingencies identified a lack of knowledge about procedures, confusion regarding joint responsibilities, and a lack of a concept of operations for joint forces interaction. In order to meet the joint logistics needs of the future, the DoD must develop logisticians with the necessary functional skills and knowledge to operate in an integrated, joint environment and fill the void in logisticians at the joint operational level.

Recommendations

The DoD needs to develop a joint logistics training program and mandate that all Services require their junior-logistics personnel (officers, designated enlisted and certain civilians) to attend in addition to their Service-specific entry-level technical training. This bottom-up approach to joint logistics training transformation would produce several benefits compared to current mid- and senior-level joint training processes. One benefit would be the elimination of redundant training programs in core logistics business fundamentals and competencies that are shared among all Services. "There are cosmetic differences such as acronyms usage and military roles and responsibilities...but the job requirements and training material are equivalent."⁵⁷ Combining training for all Services would save considerable costs in redundant training. Another benefit would be the development of well-rounded and experienced joint logisticians assigned to COCOMs, JTFs, USTRANSCOM and DLA with a common frame of reference and lexicon. This would enable logistics personnel on the staff to share a common

understanding and be able to communicate effectively in a joint operational environment. The third benefit would be an improvement in rapid integration of JLEnt efforts and joint logistics readiness throughout the ROMO. COCOMs have less capability in-theater to receive and organize combat forces now that forward-stationed forces have been drawn down. To give U.S. forces the necessary competitive edge in this new environment with increasing complexity, rapid change, and constant conflict, logisticians from all Services must have knowledge of joint war-fighting doctrines and a high state of joint training readiness to execute those doctrines. “Stateside ‘force packages’ must be flexible in their composition yet already integrated and ready to fight as a joint team before they deploy from the United States as a power-projection force.”⁵⁸

The Joint Staff J-7 and J-4 should develop the new entry-level joint logistics training policy and curriculum requirements through the Joint Education and Training Division (JETD) in coordination with the COCOMs, Services and the DoD Logistics HCS Executive Steering Group (ESG). The CJCS designates the Joint Staff J-7 as the focal point to monitor and coordinate joint training policy, issues and concerns of the COCOMs, Services and the Office of the Secretary of Defense (OSD). “The J-7 supports the CJCS and the joint warfighter through joint force development in order to advance the operational effectiveness of the current and future joint force.”⁵⁹ J-7 also develops policies for officer and enlisted JPME. The J-4 coordinates the development of joint and multinational logistics training requirements within joint training activities.⁶⁰ The JETD prepares and publishes the CJCS Joint Training Policy and integrates DOD Training Transformation Strategic Guidance. The DoD Logistics HCS ESG is made up of senior leaders from the OSD, Services and agencies possessing logistics capabilities. The ESG’s primary role is to coordinate and provide guidance for the logistics HCS regarding training,

education, challenges and strategic direction.⁶¹ The Services through the Secretaries of the Military Departments ensure members are trained and capable in joint operations prior to deployment. The Services are responsible to recruit, train, organize and equip interoperable forces for assignment to COCOMs subject to the authority, direction, and control of the Secretary of Defense and the provisions of title 10, U.S.C.⁶²

Based on the evaluation and analysis of possible COAs proposed in this research paper, COA 1 is recommended -- establish entry-level logistics training at one centralized logistics campus where members will attend all phases of initial training to include the joint curriculum and Service-specific technical training. Within the limitations of this research, this COA was found to have the lowest net cost and was the most effective in joint integration and the ability to develop an institutionalized joint lexicon and common frame of reference. More in-depth research should be conducted across all Services to review possible locations for joint training and to analyze costs to establish and operate the new curriculum and savings that will be realized. A joint panel of SMEs for each core logistics competency should be assembled under the auspices of the JCS J-4, J-7 and the Logistics HCS ESG to develop a detailed education and training program to deliberately develop officers as well as designated enlisted and civilian positions with the necessary joint logistics knowledge and operational readiness to enable the JLEnt and support the JFCs and COCOMs.

The personal connections, long-term efficiencies, and “jointness” spawned by joint entry-level logistics training will be an incredible windfall for the United States. It will create a *wholeness of logistics* effect by increasing interoperability between logisticians from all Services.⁶³ Innovative and adaptive logisticians will be developed down to the lowest levels who are masters of joint logistics and can respond quickly and flexibly to the unexpected. This will

give the JFC the freedom of action to meet mission objectives. By having well-trained and experienced joint logistics experts on staff, the JFC will be able to expedite decision-making and operate inside of an enemy's decision-making cycle by compressing planning timelines. The long-term vision of the DoD Logistics HCS, "an integrated, agile, and high-performing future workforce of multi-faceted, interchangeable logisticians that succeed in a joint operating environment,"⁶⁴ will eventually become a reality.



Endnotes

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