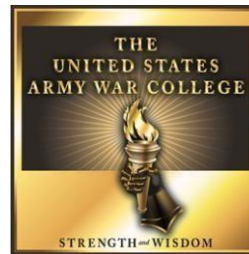


Strategy Research Project

An Analysis on the Development of Next Generation Logistics Leaders

by

Lieutenant Colonel Donald A. MacCuish
United States Army



United States Army War College
Class of 2015

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REPORT DOCUMENTATION PAGE

Form Approved--OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. REPORT DATE (DD-MM-YYYY) 01-04-2015		2. REPORT TYPE STRATEGY RESEARCH PROJECT		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE An Analysis on the Development of Next Generation Logistics Leaders				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Lieutenant Colonel Donald A. MacCuish United States Army				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Colonel Robert A. Harney Army Heritage and Education Center				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army War College, 122 Forbes Avenue, Carlisle, PA 17013				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Distribution A: Approved for Public Release. Distribution is Unlimited.					
13. SUPPLEMENTARY NOTES Word Count: 6,494					
14. ABSTRACT This paper provided an analysis of leadership development strategies that are applicable to logistics officer education. It concludes that the Logistics Leadership Development Strategy puts the Army on the right track in developing logistics officers through education. Although on the right track, the paper also argued that the LLDS is insular in its view of leadership development. Criteria for analysis was developed from various white papers, futures concepts, and theories of professional education. Additionally, trends in public and private logistics and supply chain education was reviewed. The paper was divided into three sections, first the Framework. In this section the author provided a synopsis of the competencies and skills required of future logistics leaders based on recently published Army and Joint concepts and strategies. The second section offers a critique of the framework laid out in section I, answering the question "can the LLDS develop the future logisticians the criteria call for, and why"? Section III then offers some recommendations on changes that should be made to existing logistics education to better meet the strategy for developing future army logistics officers.					
15. SUBJECT TERMS Reflective Practitioner, Education, Leader Development, Education Strategy, Sensemaking, Joint Education					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 36	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU			19b. TELEPHONE NUMBER (w/ area code)

USAWC STRATEGY RESEARCH PROJECT

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Abstract

Title: An Analysis on the Development of Next Generation Logistics Leaders

Report Date: 01 April 2015

Page Count: 36

Word Count: 6,494

Key Terms: Reflective Practitioner, Education, Leader Development, Education Strategy, Sensemaking, Joint Education

Classification: Unclassified

This paper provided an analysis of leadership development strategies that are applicable to logistics officer education. It concludes that the Logistics Leadership Development Strategy puts the Army on the right track in developing logistics officers through education. Although on the right track, the paper also argued that the LLDS is insular in its view of leadership development. Criteria for analysis was developed from various white papers, futures concepts, and theories of professional education. Additionally, trends in public and private logistics and supply chain education was reviewed. The paper was divided into three sections, first the Framework. In this section the author provided a synopsis of the competencies and skills required of future logistics leaders based on recently published Army and Joint concepts and strategies. The second section offers a critique of the framework laid out in section I, answering the question “can the LLDS develop the future logisticians the criteria call for, and why”? Section III then offers some recommendations on changes that should be made to existing logistics education to better meet the strategy for developing future army logistics officers.

An Analysis on the Development of Next Generation Logistics Leaders

The Army is in a significant period of transformation. Due to engagements in Iraq and Afghanistan over the past 13 years, both military budgets and manning have grown to unsustainable levels that now must be addressed. In the 2015 Defense Budget, the Secretary of Defense laid out a strategy over the next five years to achieve a savings of \$94 Billion through efficiencies.¹ After over a decade of growth the Army is reducing its personnel strength by over 15%; dropping from 520,000 to as low as 440,000 Soldiers.² Additionally, the Army recently published an official Army Operating Concept addressing the question how do we turn tactical level victories into strategic level successes? According to the TRADOC Commander, General David Perkins, "That was a very deliberate decision...we are very, very good at the operational and tactical level, this was written by people who've actually done this since 9/11, and we realize that actually the operational and tactical level of war is inadequate. It's important, but it is inadequate to get at what the Army needs to provide our nation."³ Resulting from these tensions of being able to do more with less, the Army has recently placed a lot of rigor in developing strategies for training, education, and talent management. Examples of this are the Army Leader Development Strategy (ALDS) and Logistics Leader Development Strategy (LLDS).

The purpose of this paper is to offer an analysis of leadership development strategies that are applicable to logistics officer education. It is my contention that the Logistics Leadership Development Strategy puts us on the right track in developing logistics officers through education. Although on the right track, I contend that the LLDS is also insular in its view of leadership development. Further, I argue that logistics officer education must make changes in both breadth and depth in order to meet the

requirements envisioned in the strategies for future logistics leaders. I will develop my criteria for analysis from various white papers, futures concepts, and theories of professional education. I will support my contention by also reviewing trends in logistics education from the public and private perspectives.

This paper is laid out in three sections, first the Framework. In this section I provide a synopsis of the competencies and skills required of future logistics leaders based on recently published Army and Joint concepts and strategies. This section also provides some terms of reference to help scope the analysis. The second section offers a critique of the framework laid out in section I. This critique answers the questions:

1. Can the LLDS develop the future logisticians the criteria call for, and why?
2. Does the LLDS provide an adequate view of future requirements, and if not what should be added?

Section III then provides some recommendations on changes that should be made to existing logistics education to better meet the strategy for developing future army logistics officers. This is different from section II in that the recommendations in section II were specific to strategy. Conversely, Section III offers recommendations that help achieve the strategy in section II.

Framework for Future Army Logisticians

There are two terms used in this paper that need further clarification. The first is leadership and the second is logistics. For the scope of this paper, when talking leadership development and education, I am strictly focused on U.S. Army officers. I am primarily discussing junior and field grade officer education, but my discussion also extends to senior officers. I will also discuss joint logistics officers, but my perspective is limited to the perspective of a career Army logistician. Next, I am limiting my discussion

to logistics officers and not sustainment officers. In the Army, the branches of Quartermaster, Ordnance, and Transportation make up logistics. When the Army uses the term sustainment the career fields of Acquisition, Finance, and Adjutant General become included. The reason I limit my discussion to logistics officers and not sustainment officers is because the leader development strategies reviewed were specific for logisticians and not all force sustainment leaders.

Before looking at capabilities needed of future logistics leaders it is important to understand what the envisioned requirements will be. In order to gain this understanding, specifically in regards to logistics leaders, a framework must be established and an understanding of what the Army will look like in the year 2020 and beyond. To lay out this framework I will summarize four documents. First is the Army Operating Concept. "The concept establishes the intellectual foundation for U.S. Army force development. It establishes a framework for learning and for applying what the U.S. Army learns across leader development, training, doctrine, organization, material development and policy".⁴ The second is the Joint Logistics Education Framework for Joint Force 2020 Logisticians. This document provides integrated guidance and direction from the recently created Logistics Development Council. The next two documents I review are specific to leadership development. They are the Army Leader Development Strategy and the Logistics Leader Development Strategy (LLDS). While reviewing the LLDS, I will include a summary of the Logistics Professional Education White Paper. Both the LLDS and White Paper provide logistics specific guidance from the Combined Arms Support Command (CASCOM) based on the ALDS. The understanding of these documents is the basis for envisioning the Army of the future,

the behavioral qualities and competencies expected of future logistics leaders. They also encapsulate, from the Army's perspective, the areas that holistically make up the professional discipline of military logistics for 2020 and beyond.

The Army Operating Concept

The foundation for how the Army predicts it will operate in the future is the U.S. Army Operating Concept: Win in a Complex World 2020-2040.⁵ The Army Operating Concept defines by what means the Army will conduct joint operations, the envisioned size of the force, the duration of engagement in future conflicts and the security environment under which the Army will operate. In Chapter 3 the central idea of how the future Army forces of the United States will operate is summarized in one paragraph.

The Army, as part of joint, inter-organizational, and multinational teams, protects the homeland and engages regionally to prevent conflict, shape security environments, and create multiple options for responding to and resolving crises. When called upon, globally responsive combined arms teams maneuver from multiple locations and domains to present multiple dilemmas to the enemy, limit enemy options, avoid enemy strengths, and attack enemy weaknesses. Forces tailored rapidly to the mission will exercise mission command and integrate joint, inter-organizational and multinational capabilities. Army forces adapt continuously to seize, retain, and exploit the initiative. Army forces defeat enemy organizations, control terrains, secure populations, consolidate gains, and preserve joint force freedom of movement and action in the land, air, maritime, space, and cyberspace domains.⁶

The Army Operating Concept envisions a force that is engaged locally with the ability to respond globally. Leaders and organizations must have the ability to develop situational understanding through action, conduct joint combined arms operations, and sustain high tempo operations. Army forces establish and maintain security and consolidate gains to retain the initiative. The Army will maintain a focus so that it is ready to respond and mitigate crisis in the homeland. Finally, the Army ensures

institutional and operational synergy, develops innovative leaders, and optimizes human performance.⁷

Joint Logistics Education Framework for JF 2020 Logisticians

The Center for Joint and Strategic Logistics (CJSL), at the National Defense University, exists to shape the development of logisticians proficient in applying logistics support across the entire national security enterprise. The CJSL informs the Logistics Development Council (LDC) in the areas of education, knowledge sharing, organizational improvements, and leadership⁸.

Specifically in terms of education, the CJSL provides insights to the LDC on how the logistics learning continuum can produce logisticians that have the best opportunity for success in the contemporary and developing operational environments.

In September of 2013, the Department of Defense published the Capstone Concept for Joint Operations: Joint Force 2020. From this document, through the CJSL, the LDC published a framework for the services to agree upon what the current educational environment is, and look at logistics education requirements for JF 2020. The framework identifies four logistics competencies and four attributes for JF2020 logisticians. The attributes are pervasive interoperability, rapidly employable on a global scale, regionally oriented, and selectively interdependent. The competency areas for JF2020 logisticians are supply chain management, life cycle systems management, joint logistics planning, defense industrial base optimization.⁹

Army Leader Development Strategy

The ALDS was published in 2013 and provides the CSA's strategic vision for the Army in terms of leadership development. "We must renew emphasis on developing Army leaders to meet the security challenges of tomorrow"¹⁰ The ALDS approaches

leadership development through three complimentary lines of effort with each line of effort operating across three domains. The lines of effort are training, education, and experience. The domains are operational, institutional, and self-development. Figure 1 illustrates the domains and lines of effort outlined in the ALDS.

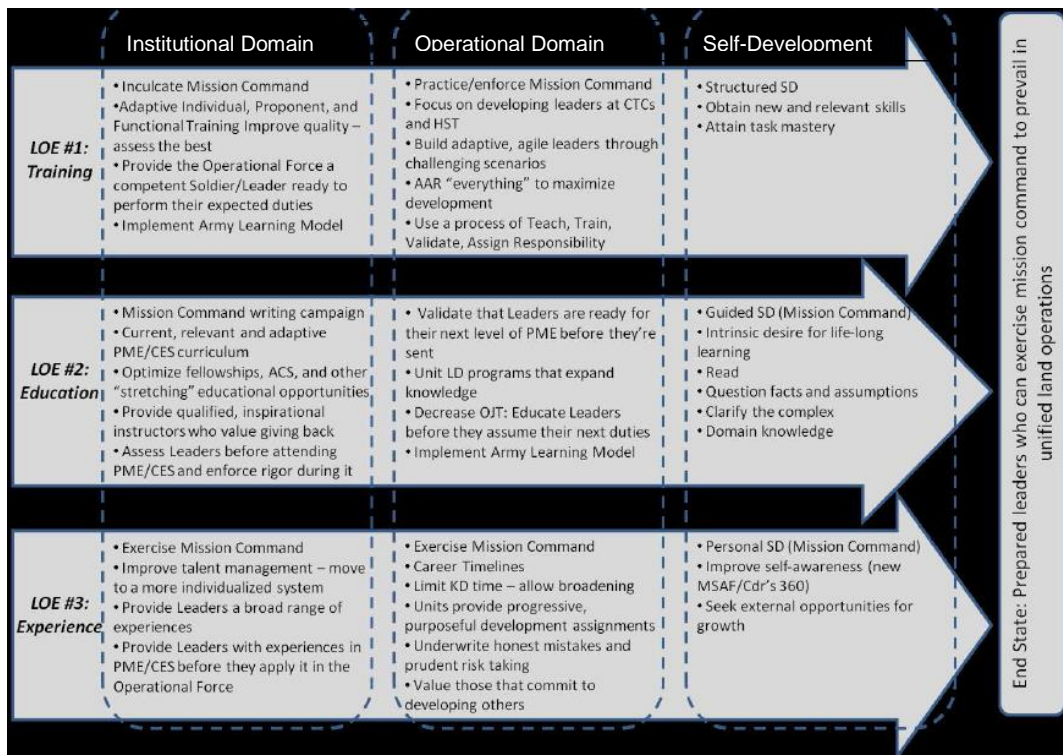


Figure 1: ALDS Domains and Lines of Effort¹¹

The ALDS is very broad and concise, but in reviewing the figure above, some nuggets are worthwhile to inform the educational strategy for future logistics officers. First, a balanced approach across the institutional, operational, and self-development domains is required. Thus, the domains require complementary efforts. Second, all officers should be provided education opportunities to prepare them to be adaptive and creative leaders capable of operating in complex environments. However, officer development should be selective based on core leadership competencies. Third, qualified and inspirational instructors should be selected in the institutional domain.

Finally, the purpose of education is to improve reason and judgment and “hone the habits of the mind: agility, adaptability, empathy, intellectual curiosity, and creativity.”¹²

Logistics Leader Development Strategy

The Combined Arms Support Command (CASCOM) is the U.S. Army's sustainment think tank with the mission to train and educate sustainment professionals (both military logisticians, and DA civilian logisticians). One of CASCOM's core functions is to develop sustainment doctrine and conduct sustainment leader development, military and civilian functional training, training development, and training support functions¹³. Two documents produced by CASCOM in 2014 are intended to provide an approach for developing expert logisticians with the characteristics envisioned for the 21st century officer laid out in the Army Leader Development Strategy (ALDS). These two documents are the Logistics Professional Education White Paper and the LLDS.

When reviewing the LLDS it is clear that the ALDS was the foundational document used to develop the strategy. The LLDS has a complimentary mission, vision, and framework to the ALDS. The LLDS also provides the same lines of effort and domains as the ALDS.

The Logistics Leader Development Strategy is also linked with the Joint Logistics Education Framework for JF 2020 Logisticians. The LLDS identifies four logistics areas that broadly capture the aspects of military operations in which military logisticians must develop expert skills and knowledge. The Logistics Professional Education White Paper identifies these same four core competencies, but defines them in terms of “logistics learning areas¹⁴”. These four areas are logistics planning (LP), distribution/supply chain management (DSCM), life cycle systems management (LCSM), and defense industrial

base management (DIBM). LP involves the planning and executing the movement and support of forces. DSCM includes procuring, producing, and delivering products or services to customers. LCSM is the process of managing systems across their life cycle. DIBM concentrates on capabilities and capacities of both private and government owned depots, arsenals, and other organizations and resources that make up the military industrial complex.

The LLDS and Logistics Professional Education White Paper also introduce two terms that were not previously mentioned in the AOC, ALDS, or JLEC. The LLDS envisions a reflective practitioner's approach to education, and developing the ability to sensemake.¹⁵ The curriculum for educating a reflective practitioner has three main features. These are learning by doing, coaching rather than teaching, and a dialogue of reciprocal reflection-in-action between coach and student.¹⁶ "Sensemaking involves turning circumstances into a situation that is comprehended explicitly in words and that serves as a springboard into action."¹⁷ I will discuss these two concepts in more detail when offering recommendations.

Analysis of the Logistics Leader Development Strategy

Review of these documents uncovers not too many surprises and affirms that there are well thought out linkages on what is essential to success in developing U.S. Army logistics officers. Figure 2 summarizes this list of skills and competencies.

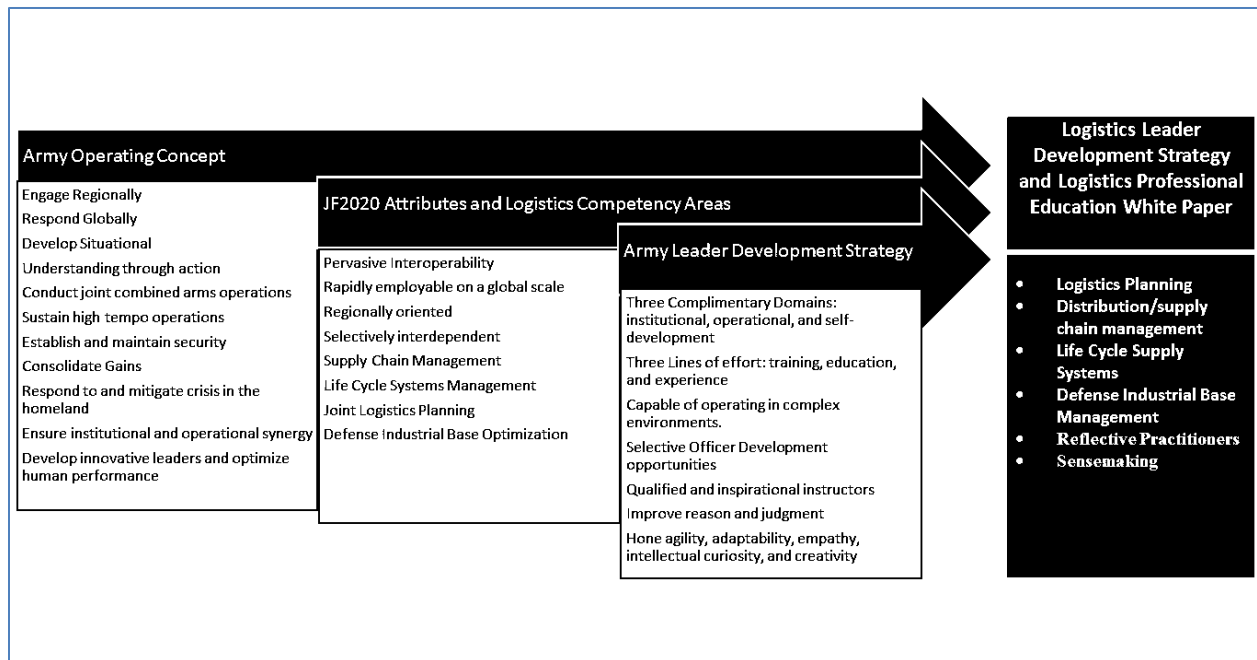


Figure 2: Crosswalk AOC, JELC, and LLDS

Although the documents are well linked, can the LLDS develop future logisticians the criteria call for? Additionally, does the LLDS provide an adequate view of future requirements?

Through the review of the AOC, Joint Logistics Education Framework, the ALDS and LLDS, there appears to be little disagreement as to how Army logistics officers should fit into the future operating environment. The LLDS also affirms that a deliberate and effective officer education program is an essential piece of the leader development strategy. While the LLDS provides a strongly linked framework for officer education, it provides little linkage with perspectives from the public and private sector in regards to contemporary logistics competencies, education, and future challenges. It is also insular in that it does not appear to provide perspectives from how the other military services develop logistics leaders. While this is explainable due to the fact that the ALDS and AOC are also self-referencing, the LLDS misses an opportunity by only looking at

leadership development from an Army Leader Development perspective. There are certainly benefits to this. It allows necessary connections to be made between Army Leader Development and Logistics Leader Development. The drawback is the strategy becomes encumbered by any cultural biases of an organization.

Absorptive Capacity

So what do these documents tell us about logistics leaders in 2020? First, and most importantly, success in the future operating environment requires logistics leaders that have absorptive capacity. Absorptive capacity refers to the ability of leaders within organizations to continually learn¹⁸. Absorptive capacity can occur in both individuals and organizational cultures. It involves the constant adding and deleting of ideas on how to do things, approach problems, and make decisions. Leaders with absorptive capacity are highly developed experts within their functional area. Absorptive capacity enables a leader to recognize the value of new information, to assimilate it and apply it in a novel way. Logistics leaders with absorptive capacity must understand the entire logistics enterprise from factory to foxhole. They are functional experts in their branch and understand its utility across the joint, interagency, intergovernmental, and multinational (JIIM) environment.

Adaptive Capacity

Being logistics experts is not enough. Logistics leaders in 2020 must also have the foresight and the adaptive capacity to develop innovative solutions to the complex challenges that exist now, and will continue to exist in the future. These challenges are both internal and external to the organization. Adaptive capacity is different from absorptive capacity because it focuses on the ability to change whereas absorptive capacity focuses on the ability to recognize different ideas and ways to do business.

Another term often used to describe adaptive capacity is strategic flexibility. The ability of an organization to change is based on the adaptive capacity of the senior leadership and their ability and openness to change.¹⁹

Depth and Breadth

The strategy necessitates logisticians to have knowledge across both depth and breadth. The Army requires logisticians that are experts at the strategic, tactical, and institutional level. Additionally, logisticians must be experts in the JIIM domain. Logisticians must be able to plan logistics operations for a military unit engaged regionally while also possessing the knowledge to operate within the defense industrial base as one of a few uniformed personnel in charge of thousands of governmental civilians. Logisticians must be prepared to operate in early entry operations and in megacities. Logisticians will have to operate domestically when responding to and mitigating crisis, but also be able support humanitarian and foreign assistance operations internationally.

Reflective Practitioners

The Logistics Leader Development Strategy tackles this challenge by arguing for a reflective practitioners approach to education.²⁰ The curriculum for educating a reflective practitioner has three main features. These are learning by doing, coaching rather than teaching, and a reflective dialogue between coach and student.²¹ Donald A. Schon described the process of reflective practice as reflection-in-action and reflection-on-action. Reflection-in-action assumes that we will not have a full understanding of things before we are required to make a decision. The Army even argues that this is often the situation, recognizing the requirement for officers to operate in the unknown, describing the future environment as volatile, uncertain, complex, and ambiguous.

Through reflection-in-action, a leader looks at an uncertain situation and is able to make a decision while avoiding major problems, 'testing the water'.²² The leader is influenced by and uses past experience, historical knowledge, predictions of the future, and his/her own mental model. The leader uses this to predict the appropriate response or decision for the new situation.

Reflection-on-action is when the leader conducts his After Action Review (AAR) exploring why he/she made the decisions, what was happening in the organization, and what was the outcome? This reflection-on-action is exactly where the ALDS places the emphasis for education. Through reflective practice, the logistics leader will deconstruct and interpret the event or situation through their own perspective and combine that with their unique past experiences and biases. Reflection-on-action then presumes the leader will express through written and verbal word trying to create meaning, develop a solution, and continue moving forward.

Commercial Perspective

One last area to cover in the analysis of the LLDS is to look at what the commercial view of logistics education is and determine if anything relevant could and should be applied to the LLDS.

Logistics management is a relatively new field of study for graduate and undergraduate education. It really gained popularity in the 1970s. Prior to that, it was primarily an elective or a focus area for other management fields. Since it is a relatively young field of discipline, there are few studies focused on contemporary education specifically for logistics. Yen-Chun Jim Wu did provide a comprehensive empirical study in 2007 that identifies the educational needs of logistics managers from an international perspective. In that study he looked across the United State, Asia, and Europe to

identify what logistics curriculum focused on. The top three compulsory courses in undergraduate logistics programs are logistics management, transportation management, and supply chain management. From the graduate perspective the top three programs are logistics management, supply chain management, and seminar.²³

²⁴This demonstrates not just what is deemed important to teach, it also demonstrates a strong link between what is required at an undergraduate level and what is required at a graduate level. The most important course areas are ranked nearly the same. Not only is there a strong relationship between undergraduate and graduate curriculum, there is also a strong relationship between schools that offer both graduate and undergraduate level degrees in logistics²⁵

The other insight applicable to contemporary logistics education is the quality of academic instructors. 71 percent of faculty surveyed graduated from one of the top 100 universities. In the United States, 56 percent of logistics faculty obtained their PhD degrees in marketing, management, logistics, or industrial engineering. Further, all the top 25 logistics programs in the country were programs from Universities that were ranked in the top 100 Universities by U.S. News & World Report. Wu concluded in his research that “This evidence indicates that schools offering excellent logistics programs are also positively associated with their overall academic reputations.”²⁶

I believe the LLDS captures the same developmental needs that are applicable in contemporary commercial education. But the LLDS does not implicitly offer the same perspective of how to meet those needs. Essentially, the ends are the same but the focus on ways and means is different. For example, the LLDS places interest in the need for high quality instructors, but it does it place the weight on this criteria to the

extent seen on the commercial side. I will dig a little deeper into this when I offer recommendations for changes in Army logistics education.

Recommendations

I offer three brief recommendations in officer logistics education to better meet the strategies reviewed in the paper. First, the Army should take the lead in advocating for joint logistics education. Second, officer education should be revolutionized to focus on developing experts in the competency areas outlined in the LLDS. Third, the concept of reflective practice needs to be followed up with the actions required to create the proper learning environment.

Joint Logistics Education

When reviewing the Joint Logistics Education Framework and the Army Logistics Leader Development Strategy you can conclude that the essential capabilities of future logisticians are not service specific. Both the joint perspective and the Army perspective envision the same attributes and competency areas. The Chairman of the Joint Chiefs of Staff stated his vision is for Professional Military Education that “understands that young officers join their particular Service, receive training and education in a joint context, gain experience, pursue self-development, and, over the breadth of their careers, become the senior leaders of the joint force.”²⁷

Approximately 1,700 officers from the pay grades of O-1 through O-3 complete one of the five service-specific logistics officer training courses each year.²⁸ For decades we have identified a need to “introduce our junior officers to an overview of Joint operations in their Advance Courses.”²⁹ While an introduction to joint operations does occur, it is done in a limited joint learning environment. For an example of the limited joint learning, let us consider the Captain’s Career Course for logisticians in the U.S.

Army. The marines send 5 officers to this Army course. This is a start, but it is inadequate to optimize the value of joint education. Currently the first level of joint professional military education is at the rank of Major when officers are selected for, and attend, the Command and General Staff College (CGSC). A recent study by Rand Corporation found that officers who attended joint professional military education considered exposure to other services', nations', and agencies cultures and mindsets as the primary benefit of their educational experience.³⁰ If CGSC and The U.S. Army War College demonstrate the value of joint military education, and the Chairman's vision is for young officers to receive education in a joint context, why not start that integration earlier in a logistics officer's career? In the 30 years since The Goldwater-Nichols Defense Reorganization Act, we should not require five "distinct business models and curricula to exist where there is currently redundancy of effort"³¹.

Certainly there are some nuances for each service, but regardless of the nuances, the broader knowledge, skills, and abilities required of military logisticians are applicable across the branches of service. It is time to no longer confine junior officer education to their own branch of service. Commercial industry also demonstrates that core courses in logistics education are nearly universal.

Given the importance of having joint capable officers, Service-specific education for junior officers creates a barrier to developing the skills we want in future logistics leaders. United States Transportation Command (USTRANSCOM) is the distribution process owner for all DoD. Defense Logistics Agency (DLA) provides the majority of repair parts, food, fuel and energy, uniforms, medical supplies, and construction and barrier equipment for all the services. Army Materiel Command (AMC) is the DoD

executive agent for chemical weapons stockpile and for conventional ammunition. Additionally AMC provides the only contingency contracting organization across DoD. The U.S. Army Quartermaster Center and School is the enlisted training center across the Department of Defense for mortuary affairs and food service. In all these examples, joint integrated logistics is the common thread. Even at the operational and tactical levels, the vast majority of assignments for logistics officers involves cooperating with or potentially leading a joint, intergovernmental, interagency or multinational effort in support of military operations.

There are several ways in which to implement a joint logistics curriculum. Regardless of the method or implementation, a core curriculum would need to be developed and approved under the oversight of a governing body such as the JLC. The core curriculum would focus on the foundational concepts of logistics planning, distribution/supply chain management, life cycle supply systems, and Defense Industrial Base Management. The core curriculum would also provide the foundational leadership, ethics, and “officer-ship” education that is part of military professional developmental.

The core curriculum could be taught at one centralized location such as the Army Logistics University, or it could be conducted in multiple locations in the same manner as the Services Command and Staff Colleges currently operate. While there are certainly efficiencies with centralizing the education at one location, the most important aspect is bringing all the services into the same classroom.

The core curriculum will not likely fully address the nuances that each branch of service will deem necessary for junior officer education. One way to address the service-specific educational needs is to establish directed electives (or directives) for

land, air, and sea logistics based on future assignment. Another option would be to move some of the service specific education to on-the-job training at the officer's first duty assignment. A third option would be to centralize the core curriculum and keep a shorter and decentralized service-specific phase for junior officer training that is conducted at the conclusion of the core curriculum.

Revolutionize Logistics Graduate Level Education

The Army's Logistics Leader Development Strategy and the Joint Logistics Education Framework identified the need for education of logistics leaders focused in four learning areas. The Logistics Education White Paper provided a recommendation (seen in figure 2) on levels of emphasis to broadly conceptualize a framework across the life cycle of officer professional development.

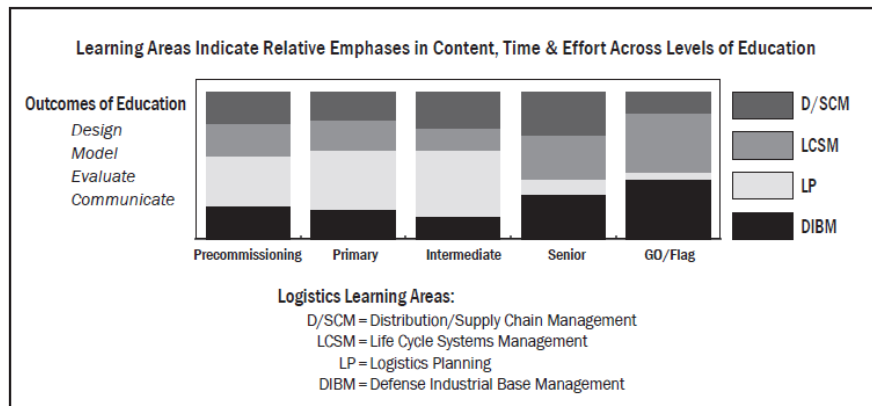


Figure 2: Logistics Learning Area³²

Cross-referencing this table under Bloom's taxonomy, one can conclude that an officer must be exposed early in his/her career to all the learning areas, albeit at different levels. By the time an officer becomes a senior leader in rank, they should be a strategic leader able to operate across all the learning areas. This requires exposure throughout the educational life-cycle. For example, junior officer education might

develop officers with an understanding of the defense industrial base but with the ability to analyze and evaluate logistics planning. As an officer gains experience, intermediate level education might focus on analyzing both logistics planning and defense supply chain management. By the time an officer completes senior level education, they should possess the ability to evaluate and create across all the learning areas.

The AOC states “the Army will continue to collaborate with industry and academia to promote science, technology, engineering and math education as well as identify commercial technologies with military applications.”³³ Army Logistics University (ALU) and the Virginia Commonwealth University (VCU) School of Business have recently partnered to offer a cooperative master of supply chain management (MSCM) degree. Over the next two years that program will transition to the Strategic Enterprise Logistics Course (SELC). “SELC will develop strategic logisticians who are competent in managing issues dealing with life cycle systems, the defense industrial base, and distribution and supply chain management in the strategic domain of the joint logistics enterprise.”³⁴ What this course needs now is co-sponsorship from OSD- AT&L and the Joint Staff J4 because they chair the Logistics Development Council. By co-sponsoring initiatives like these it validates the requirements laid out in the Joint Logistics Education Framework. This validation is not needed to find more resources. The SELC program is intended to replace The Theater Logistics Planners Program (TLoG), therefore requiring no growth in faculty or classroom space³⁵. The endorsement is needed so that priority is placed on the program. This, in turn, generates a competitive selection process for students and ensures that our best and brightest logisticians attend.

With the creation of the SELC, the Theater Logistics Planners Program (TLoG) will dissolve. TLoG is the Army's premier course for senior Company and Field Grade Officers, civilian logisticians and international students focused on multifunctional, joint, and multinational logistics problem solving at the operational level. It provides graduates with an additional skill identifier (P1) as a logistics planner. TLoG remains a valuable course but does not focus on all four competency areas identified under the Joint Logistics Education Framework. TLoG is primarily a logistics planning course.

Two observations are important to make at this point. First, SELC matches nicely with the taxonomy of learning areas required for intermediate level education. It is broader in scope than TLoG. The other observation, however, is that there is a need for intermediate level officers with a deeper understanding of logistics planning. Referring back to table 2, forty percent of the learning focus should be on logistics planning. Officers at the intermediate level will gain breadth that in education through SELC, but some depth of logistics planning is sacrificed.

I believe this is where the Department of Logistics and Resource Operations (DLRO) at the Army Command and General Staff School can support the learning model. DLRO "educates, trains, and develops officers in the art and science of sustainment, human resource management, force management, and medical logistics across the full spectrum of war with emphasis on operational and tactical sustainment."³⁶ In the existing core curriculum DLRO presents force sustainment operations at the tactical, operational, and strategic levels; and incorporates joint, interagency, intergovernmental, and multinational scenarios for all CGSS students, both logistics officers and non-logisticians. This should remain unchanged. However, DLRO

also offers elective courses that expand on the fundamentals of tactical, operational and strategic force sustainment. In these electives DLRO provides a certification course that is jointly instructed by ALU, the Support Operations Course (SPO). The SPO course is a directed elective for all Army logistics officers attending CGSC who have not previously taken the SPO course in their career. This SPO certification should be replaced by a logistics planner course, similar to TLoG. The DLRO department should also take over the P1 identifier that is currently associated with TLoG.

DLRO is currently moving in this direction but is not fully supportive of this concept. Starting next year, they will offer an operational planning elective for up-to 16 students. Unfortunately the course is not a course specific for logisticians, it is open to any branch of service; armor, aviation, and military intelligence officers interested in logistics planning will be able to take the course. The issue with this is reflecting Bloom's taxonomy on diagram at Figure 2. At the intermediate level of education, logistics officers should be moving to a higher level of analyzing and evaluating. Non-logistics officers are most likely just hoping to reach a level of understanding and applying logistics planning.

Ultimately this points to a disconnect, or a disagreement, between DLRO and Army Logistics University (ALU) in terms of unified effort across the learning areas in logistics officers education. As a result DLRO does not consider the course a replacement for TLoG and they do not want responsibility for the P1 identifier. This disconnect falls outside the scope of this paper, but would be a great topic for future research.

Reflective Practitioners

I would like to offer one final observation. The Army must capitalize on the investment they make when sending officers to professional education courses. The return on that investment should be measured in terms of demonstrated learning based on what leaders deem relevant for our future officers. The Logistics Professional Education White Paper envisions a reflective practitioners approach to education.³⁷ The curriculum for educating a reflective practitioner has three main features. These are learning by doing, coaching rather than teaching, and a dialogue of reciprocal reflection-in-action between coach and student.³⁸

The Logistics Professional Education White Paper argues that the faculty is the center of gravity for logistics education.³⁹ This is a valid argument and points to one of the greatest hurdles to overcome. There are two viewpoints on what type background and experience faculty should have. One viewpoint is to place military logisticians with recent field experience in the classroom to provide their knowledge and experience to the learning process. The other viewpoint is to hire educators with a passion for teaching and logistics knowledge albeit not as recent as a military educator might possess. A blended strategy creating a mixed faculty from both camps is the current approach taken. This mixed approach is effective, but requires a commitment to select faculty from both camps based on the expertise they bring. This means the academic faculty must be hired based on high educational credentials, and our top military officers should be assigned faculty positions.

In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application of research-based theory and technique. In the swampy lowland, messy, confusing problems defy technical solution. The irony of this situation is that the problems of

the high ground tend to be relatively unimportant to individuals or society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern.⁴⁰

This scenario brilliantly captures the need for future officers that have an absorptive capacity to attain rigorous professional knowledge as logisticians.

Knowledge that they can use while on the high ground. It also illustrates that future officers must have the adaptive capacity to problem solve, adjust course, and demonstrate flexibility and confidence when in the swamp.

Army logistics education has already made advances reducing pedagogical methods of readings and lectures and moving to andragogical methods of educating such as case studies, logistics simulations, and group projects. There is still more that should be done to create an educational environment that has a reflective practicum. An officer in the classroom of 2020 should face a more rigorous educational experience than what is provided today. Increased rigor isn't designed to make the educational experience more difficult. It is not intended to just make students learn more stuff. The rigor should be intended to develop strategic thinking logisticians.

For example, Operation Torch, is a commonly used case study in Army curriculum. Operation Torch was the invasion of North Africa and it was the United States military's first major offensive campaign in the European Theater during World War II. As such, there are many observations directly tied to logistics. When using this case study a simple response from a student might be that logistics failed because the tactical leaders sidelined the logistics planners. Another student might respond that a detailed load plan of the vessels carrying equipment should have been optimized for offloading; this would have reduced the mountains of equipment stuck at the port. The use of this case study contributed to the knowledge and increased understanding for the

student. It was a good teaching technique that provided a perspective of a real world activity for use in future decision-making. An instructor with a deeper background in education approaching this same case study would try to get the student to go further and to reflect upon the impact to sequential events, the next campaign, or to doctrine and organizations. This educator would perhaps even have the student dig deeper to analyze and explain why logistics was sidelined or why the vessel was not optimized for offload. This focus during the case study on both the cause and the effect develops intuition.⁴¹ In Army language, intuition is the process of turning our past experiences, our evaluation of a scenario, or our understanding of a case study, from just an event to a lesson learned. The Logistics Professional Education White Paper refers to this deeper evaluation as “appreciative inquiry” and developing the ability to “sensemake”.⁴²

Sensemaking, in relation to the case study above, develops the students understanding beyond just answering the question “what happened with logistics?” “Sensemaking involves turning circumstances into a situation that is comprehended explicitly in words and that serves as a springboard into action.”⁴³ Appreciative inquiry refers to the environment in which sensemaking is developed. “Appreciative inquiry is a positive approach to solving organizational problems and is centered on the belief that inquiry into and discussions about organization strengths, successes, and values will be transformative”⁴⁴ Appreciative inquiry requires three facilitative features to be effective in logistics education. These are active involvement by the students, a social setting that encourages facilitation, and a problem-solving focus.⁴⁵

Learning how to sensemake in the classroom creates skills logistics officers require when dealing with ambiguity so that they can create meaning, develop a

solution, and continue moving forward. Appreciative inquiry not only teaches students how to facilitate discussion and work in groups, it also enhances knowledge and decision-making.

Conclusion

The purpose of this paper was to offer an analysis of leadership development strategies that are applicable to logistics officer education. The analysis concludes that the Logistics Leadership Development Strategy puts logistics education on the right track in developing Army Officers with the knowledge, skills, and abilities envisioned for the future. It is evident that there are strong linkages between the AOC, ALDS, JLEF, and the LLDS. It is also insightful that the authors of the LLDS went into greater clarity of vision and insight by introducing the concepts of reflective practice, sense-making, and appreciate inquiry. Although the LLDS puts officer education on the right track, it is somewhat insular in its view of leadership development. There is still some insight to be gained by looking at commercial educational practices in contemporary logistics education. Finally, there are transformations within the educational domain that are necessary to fully meet the strategy laid out in the LLDS. The changes are in both breadth and depth of education. First, the Army should take the lead in advocating for joint logistics education. There is much to be gained in terms of consolidating education across the services. A more highly qualified cohort of faculty and a more diverse student population are two benefits of consolidation of educational efforts. Both the LLDS and requirements in contemporary logistics education indicate that internally focused designs of education (service specific education) is not compatible with the mindset of externally focused (joint) logistics practices. Logistics officers need to possess a diverse

set of skills to tackle the varied perceived challenges expected in the future. Developing these skills is best practiced when the educational domain is joint in nature.

There are also gains to be made by redistributing officer education across the logistics learning areas outlined in the JLEF and LLDS. Course arrangement is out of balance focusing primarily on logistics planning and not enough on the other areas of logistics. Finally, developing the skills of reflective practitioner requires resourcing and an implementation strategy with logistics educational institutions. It means the Army must reconsider how it balances military and civilian instructor positions. It also means the Army must be willing to select educators based on the level of academic training they have received. Logistics education requires a truly integrated approach in developing officers with the abilities to keep pace with anticipated demands, and the skills to respond to the unanticipated challenges that are in the future.

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