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This thesis assessed the Army Distance Learning Plan (ADLP) and the current programs associated with implementing the current Army guidance for distance learning. The thesis set out to determine what requirements went into developing OSs and in doing so surveyed civilian educators and U.S. Army distance learning plan managers to examine the DLPs they were directing.

The analysis showed that neither army nor civilian distance learning plan managers used formalized requirements for organizational structure development (OSD). Instead, they developed DLPs and then established OSs that met the needs of the plan.

The recommendations to CGSC were to establish the climate to aid DLP success and to determine the OS by identifying the needs of the target populations of student and the design of the DLP. Designing the DLP should only occur after OSD and should be flexible enough to facilitate changes in the size, composition, and needs of the target audience. The OS must power-down DL approaches and train the instructors on DL media options. Last, the college must invest for the longevity of the DLP by hiring key personnel to staff OS and manage the DLP.

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DISTANCE LEARNING PLAN DEVELOPMENT: INITIATING ORGANIZATIONAL STRUCTURES

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (Reference to this study should include the foregoing statement.)

ABSTRACT

DISTANCE LEARNING PLAN DEVELOPMENT: INITIATING ORGANIZATIONAL STRUCTURES by MAJ Clifton H. Poole, USA, 111 pages.

This thesis assessed the Army Distance Learning Plan and the current programs associated with implementing the current Army guidance for distance learning. The thesis set out to determine what requirements went into developing organizational structures and in doing so surveyed civilian educators and U.S. Army distance learning plan managers to examine the plans they were directing.

The analysis showed that neither the Army nor the civilian distance learning plan managers used formalized requirements for organizational structure development. Instead, they developed distance learning plans and then established staffs that met the needs of the plan.

The recommendations to the Command and General Staff College were to establish the climate to aid distance learning success, determine the organization structure by identifying the needs of the target populations of student, and the establish the criteria to design their distance learning plans. Designing the distance learning plans should only occur after organizational structures development and should be flexible enough to facilitate changes in the size, composition, and needs of the target audience. Last, the college must invest for the longevity of the distance learning plans by hiring key personnel to staff the organizational structures and manage the distance learning plans.

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TABLE OF CONTENTS

Page

APPROVAL PAGE ii

ABSTRACT iii

ACKNOWLEDGMENTS iv

LIST OF ILLUSTRATIONS vi

LIST OF ABBREVIATIONS viii

CHAPTER

1. INTRODUCTION 1

2. REVIEW OF LITERATURE 16

3. RESEARCH METHODOLOGY 27

4. ANALYSIS 37

5. CONCLUSIONS AND RECOMMENDATIONS 89

GLOSSARY 94

APPENDIX

A. THE RESEARCH INSRTRUMENT 95

B. RESEARCH DATA 100

C. SURVEY PARTICIPANTS 104

BIBLIOGRAPHY 106

INITIAL DISTRIBUTION LIST 111

LIST OF ILLUSTRATIONS

Figures Page

1. Organizational relationships 13

2. Student-OS-DLDP relationship 55

3. Student-OS-DLP correlation 56

4. Relationship to parent organization PM equal to schoole dean 65

5. PM equal to academic dean 65

Tables

1. Criteria for developing the research instrument 31

2. Data Segment Attributes. 34

3. Civilian educators student demographics. 52

4. CE number of students in target audience. 53

5. CE Types of students 53

6. Army student demographics 57

7. Number of Army students 57

8. Types of Army students 57

9. Army students measure success. 59

10. CE Measures of success 60

11. CE reasons for selecting DL 61

12. Army student reasons for selecting DL 61

13. Levels down from college president 63

14. Courseware development. 67

15. Instructor training. 69

16. ADLP assistance in OS. 74

17. Sharing information between OSs. 77

18. Support from parent organizations. 79

19. Number of years experience. 80

20. APMDS current organization structure. 82

LIST OF ABBREVIATIONS

ADLP	Army Distance Learning Program
ATDL	Army Training Digital Library
APM	Army plan manager
APMDS	Army plan manager data segment
AT XXI	Army Training XXI
ATRRS	Army Training Resources and Requirements System
CAS3	Combined Arms and Services Staff School
CBT	computer-based training
CEDL	Center for Excellence in Distance Learning
CEDS	civilian educators' data segment
CD-ROM	compact disc -- read only memory
CGSC	Command and General Staff College
CGSCDS	Command and General Staff College data segment
CGSOC	Command and General Staff Officer Course
CSA	Chief of Staff of the Army
DE	distance education
DL	distance learning
DLC	distance learning courseware
DLP	distance learning program
DLPD	distance learning program development

DS	data segment
DT	distance teaching
EA	extemporaneous agent
FTP	file transfer protocol
FY	fiscal year
HTML	hypertext markup language
ICW	interactive courseware
IWCD	interactive courseware development
MACOM	major Army commands
OPMS	Officer Professional Management System
OS	organizational structure
OSD	organizational structure development
PM	plan manager
Q-CATS	qualification, course, audience, technology and system support analysis
SAMS	School of Advances Military Studies
SCP	School of Command Preparation
SME	subject-matter expert
TASS	Total Army School System
TOE	table of organization and equipment
TRADOC	Training and Doctrine Command

VTT	video tele-training
WWW	world wide web

CHAPTER 1

INTRODUCTION

The Problem

The recent expansion of computer-related technologies, such as the internet, in concert with the necessity to reduce fiscal spending for training programs, had prompted the Army to initiate the development of computer-based distance learning programs. The programs would maximize the technological and educational advantages offered by desktop computers. Many academic and corporate organizations were following this trend. The corporations benefit by not having to pay the expense of moving employees to a training location; academic institutions take advantage of training a student who was not physically on the campus.

One of the greatest benefits a distance learning program would offer the Army was the ability to share and impart knowledge across great distances, at a minimal long-term expense. Soldiers would have access to all the doctrinal and training resources the Army had to offer without leaving their home stations. Training courses were conducted using a system that required only connectivity to the internet or to a computer with the capability to run a compact disc read only memory (CD-ROM). The Army would also benefit by augmenting and sharing training exercises across the force. The sharing of expertise and cross leveling of experiences will enhance the Army's future training and proficiency level.

Commanders at major Army commands (MACOMs) and commandants of service and branch schools were required, by official directive, to establish distance learning

plans (DLPs) to augment or replace current training. The reason for this requirement was similar to those found in the civilian sector. Specifically, the Army was downsizing and in it was unlikely that soldiers would have the luxury of attending resident institutions for extended periods of time. The time spent at resident institutions would address professional education courses to develop cognitive skills. Distance learning (DL) would address training and education for soldiers at all levels of their military careers. With the Army Digital Training Library (ADTL), a soldier would have the references required to complete training from any location by accessing the Internet.

Distance learning plan managers--those individuals at the MACOMs and institutions that had an impact in the near-term, one to three years--may or may not have had a formalized model for the formation of an organizational structures that would develop DLPs at the management level. The Army Distance Learning Plan (ADLP) directed that a percentage of the current classes taught at Army training institutions must be converted to distance learning courseware (DLC) (ADLP, 1997). The percentages differ among institutions; however, plan managers (PMs) at the institution level were responsible for implementing these changes. However, an analysis did indicate that the PMs had not received the appropriate level of guidance to start implementing the ADLP.

This thesis assessed the ADLP and the current programs associated with implementing the current Army guidance for DL. It focused specifically upon The United States Army Command and General Staff College's (CGSC's) attempt to meet the objectives of the ADLP as a test case and related the finding to the Army's plan as a whole. The requirement to meet the ADLP created the need to establish a new structure to manage the CGSC's DLP since no college organization was assigned the responsibility

to administer it full time. Finally, it offers recommendations for CGSC and the Army to better meet the objectives of the DLPs.

PMs did not know how to meet the directives set forth in the ADLP. The interviews of numerous PMs at the MACOM and institute level disclosed this lack of direction, based on the inability to address the implied tasks in the ADLP, was wasting time and would not establish a climate suitable for ADLP success. Even if the PMs did receive an appropriate level of guidance in the very near future, the researcher thought it was unlikely the ADLP would experience near-term success.

It was unlikely that the near-term objectives of ADLP would be met without severe growing pains. There were not enough qualified key personnel in PM positions to overcome the shortcomings not addressed in the ADLP. That was not say that some PMs would not experience local success. However, with the preponderance of the PM there existed a delta of knowledge and experience that the ADLP had not closed.

The ADLP failed to address a common rule of engagement when for establishing any new program: Find the people best qualified that would fill the new positions and assign them to do a job that was inline with their prerequisite skills. If the people that were selected did not have the prerequisite skills to successfully fill the positions, they were given some type of training in the domain to meet the deficit. The ADLP failed to do this and basically did not set the conditions to assist PMs. First, the ADLP did not identify the prerequisite skills that a PM needed to fill the positions. Second, it did not identify how to train the PMs in the field to a baseline of DL knowledge so localized plans could be developed and managed. Finally, the objectives that were outlined in the plan did not help to focus the PM on the tasks that needed to be accomplished at the

implementation level. Consequently, PM must develop intermediate objective before designing their plans that required additional time and resources.

The ADLP had provided valid objectives unfortunately they were inappropriate for use at the PM level. The objectives were visionary and addressed milestones and courses of actions that the PM could not individually impact. The ADLP also presented a homogeneous solution to the DL problems. There were unique problems that each PM must address that required a tailored solution. The solutions in the ADLP did not address education as much as they did training, yet there was an enormous requirement to provide adult education within the Army. The objectives did not provide a roadmap, but a set of unconnected waypoints without clear direction on how to navigate from one to another.

Since the current situation was unclear, efforts had been misdirected and resources had been spent with few favorable results. The PMs were not sure what steps were appropriate in order to convert current classes to address the DL requirements. Most PMs did not have enough domain knowledge in education technology, education theory, and software design to recommend viable frameworks. At the time of this project, PMs were spending their time trying to get the prerequisite background knowledge in order to understand how DL was conducted and how best to implement it for their organization.

For those PMs who had produced a DL product, many of their efforts had been wasted because the products had little educational value. Most, if not all, DL products completed by untrained PMs fall into the category of "boss software." As defined by the researcher, boss software was a pacifier that demonstrated to a PM's supervisor that progress was being made in developing a DL product. However, little effort was spent

on the education requirements for the software so the soldier does not learn anything from using it. However, the PM's supervisor was happy because perceived progress was being made in the DL arena and the PM was happy to have met the intent of the supervisor.

Producing boss software was the worst solution to a PM's DL problem. By producing software with a low level of educational value, the PM did two things. First, the PM developed inadequate software to meet the supervisor's expectation. The result was DLC that had little or no instructional value and therefore, did not achieve the intent of the ADLP. The intent was to provide some educational or training value to the user, while meeting the endstate of delivering DLC from the organization. Second, software that offered a low educational values was likely to alienate users to the process of distance education. As with traditional, that was not engaging would tend to alienate students and transfer little knowledge. In her research, Kim Astrid Reid showed that students were unlikely to complete DL classes if the courseware was of poor quality or design (Students Attitudes towards Distance Learning, 1996). Distance learning courseware has to be more than an electronic page-turning manual. It would stand to reason; PMs must receive training that would give them the tools to manage DLC design. The DLC produced by mission-driven, untrained soldiers would greatly differ from the curriculum produced by a technically competent, well-staffed PM.

Problem Background

The Chief of Staff of the Army (CSA) approved the Army Distance Learning Program on 19 April 1996 (Army Distance Learning Plan: Executive Summary (ADLP:

ES), 1997). The CSA issued guidance to provide resident instruction to address only officer and noncommissioned officer professional education (ADLP: ES). Soldiers would receive all the training courses by DL. "Distance learning the delivery of standardized training through the application of multiple means and technology when and where it is needed. It includes providing individual, collective, and self-development training to Army members and units. Distance learning may involve student-instructor interaction in both real time and non-real time. It may also involve self-paced student instruction without benefit of access to an instructor." (ADLP: ES)

The Army Distance Learning Plan (ADLP) was a part of Warrior XXI. Warrior XXI was one of three parts of the Army Training XXI (AT XXI) (ADLP, 1996, iii); AT XXI was a component of Force XXI, a total Army concept to redesign the force at all echelons of command (ADLP). Force XXI was designed to take advantage of ...real-time application on the battlefield, in the unit, and in the classroom... (ADLP). The goal was to establish a structure to train across all level of the Army, in peace and war, whenever and wherever needed. Force XXI recognized the criticality of maintaining highly trained leaders, soldiers, and units to meet the demands of complex missions.

In the draft of the ADLP the parts of AT XXI were: WARFIGHTER XXI, the primary portions that supports individual and collective training for Table of Organization and Equipment (TOE) units, ...WARNET XXI integrates training with the materiel acquisition system... and WARRIOR XXI that ...supports institutional and self-development training, both in the traditional classroom and through a distance learning Classroom XXI environment--anywhere, anytime... (ADLP). The most important aspect that intrigued the visionary training developer was the concept that training could be

conducted outside the classroom. If a soldier had access to the technology, he or she could receive training at any location and at anytime.

The draft ADLP supported AT XXI by ...providing coherent/integrated direction and assigning responsibilities for a broad range of training options... (ADLP). From the guidance given in AT XXI, the draft ADLP established the direction the Army would take to develop a DLP. The plan should have provided direction for the PMs, which would aid in the success of AT XXI. The plan also stated in order to support AT XXI, the Total Army School System (TASS) would be standardized and ...training technologies, infrastructure, and timelines required to implement distance learning... would be in place (ADLP). This plan would be phased in over the several years. It began in fiscal year (FY) 1996 and ends in FY 2010. The authors of the plan, while establishing timelines over a fourteen-year period, failed to specify how instructors and trainers would receive training on the new technologies.

In an effort to meet the challenge, several PMs had conducted extensive independent research to see how academic and corporate PMs had addressed the start-up issues. Army PMs had difficulty following the successes of their civilian counterparts because of one factor: lack of funding. Lack of funding restricted Army PMs from initiating their DLP. It was the opinion of the researcher and numerous PMs that many obstacles could have been overcome in the near-term with the timely infusion of start-up funds tc the DLPs. Ultimately, the PMs would get funding as specified by the ADLP. However, the scheduled apportionment of the funding would not get the PMs in time to address near-term goals. Some Army PMs with start-up funds in addition to those provided by the ADLP's budget had already developed initial management plans.

The United States Army's Training and Doctrine Command (TRADOC), Fort Monroe, Virginia, in accordance with the ADLP, had directed that all subordinate service and branch schools adhere to the requirements set forward in the ADLP (1996). CGSC, one of TRADOC's twenty-five subordinate training organizations, was tasked with the requirement to convert portions of the resident instructions it provided in its four schools to DLC format.

Over the next several years, CGSC would have to convert approximately 30 percent of its Command and General Staff Officer Course (CGSOC) (Lieutenant Colonel Lyndon Huggins, 1997) and 100 percent of the Combined Arms and Services Staff School (CAS3) (ADLP, Appendix D, Tab B, 1997) to DL. It was assumed that the School of Command Preparation (SCP) and the School for Advanced Military Studies (SAMS) would also be required to convert some courses to digital media in the near future. The college had the further responsibility to digitize all class courseware and make it available for the Nonresident Studies (NRS) and the students in its targets audience.

Of greatest influence in the near-term for CGSC was the requirement to convert portions of CAS3 to computer-based training (CBT). As of 1 October 1997, CGSC had one officer assigned to meet the challenge of converting the six-week CAS3 course to CBT. The CAS3 courseware was required to be available in CBT by FY 2000. The officer had no formal training in education technology and though his competency was not in question, his qualifications were. Historically, development follows the following pattern: The newly assigned officer conducted a self train-up, mastered the new domain knowledge, studied other PM's organizations, and looked at the needs of parent

organization. After completing those steps, the officer found that the program was severely under budgeted. Limited by fiscal constraint and attempting to meet the guidance of the parent organization, it was likely that inadequate software would be produced, if anything was produced at all.

It was difficult for a PM to start converting the courseware to CBT without a well-structured organization of skilled personnel using special equipment. The officer would waste time trying to grasp the scope of the problem. As a result, the critically short period of time allotted to prepare for the conversion of CAS3 courseware would not be used effectively. Plan managers across the Army needed assistance focusing on how to initiate CBT to meet the demands of DL. The PM's responsible for the CAS3 conversion was no different.

CGSC began to come to grips with the DL requirements established by TRADOC and started to conduct the preliminary steps to develop a DLP. The PMs were tasked with converting the CAS3 to CBT for DL. This was a new and challenging area for the inexperienced staff at the college and it appeared that an inordinate amount of time would be lost in developing and staffing an organizational structure (OS). Or, if an OS was established there may be a chance that it would not adequately meet the needs of the college. Additionally, a 30 to 50 percent turnover of military personnel compounded the problem of retaining growing expertise.

Most new PMs found they were struggling with how to get started on developing an OS to meet the DL need. This research attempted to answer those concerns by determining the factors were used to develop a computer-based DL organizational structure? For the purpose of this project the development process for organizing a

management structure was called organizational structure development (OSD). Many of those factors that may have been given as constraining guidance, but others must be identified during a needs analysis of the DLP. By identifying a finite set of design criteria, a PM would stand a better chance of establishing an OS that would meet the needs of the parent organization and their target audience.

To help bring clarity to that question, the research set out to answer two subordinate questions. The first question, What were organizational structures of other college level computer-based distance learning programs? A lead-in question to answer was, What factors were used to determine their organizational structure? Parker Rossman (1992, 6) defined DL as a method of education and training that has been in the civilian sector since the early 1930s. In that time period there had been many numerous successes and failures that could help illuminate a DLP's probability of success. These criteria would be used for comparison in a later chapter. The OS working with the PM would have a direct impact on how well the DLP was received. The research focused on the existing OSs that were conducting DL and took advantage of the wealth of knowledge already institutionalized in the field.

The second subordinate question guiding this research focused on the CGSC's desire to establish a DLP. The project answered the following: What were the computer-based training needs of CGSC and what had been developed to meet them? This question identified the direction the PM was going to determine the needs and goals of the college's DLP. There were several staff members already in place trying to determine an OS, as well as members of the college's faculty and other interested parties. This question attempted to get a pulse of the current work and determine if their planning

matched that experienced by other college-level DLP. Ultimately, this thesis will assist CGSC by relating the findings to their need to establish an OS to conduct computer-based distance learning in the near-term.

To ensure the researcher and the reader are approaching the information provided in this project from the same perspective, an agreement is needed on a few operational definitions. This thesis will use near-term to describe the next one to three fiscal years. Specifically, for this project the near-term begins in FY 1998 and ends in FY 2000. For the purpose of most projects, the near-term is the sphere of control for distance learning plan managers. Distance learning pertains to CBT. This project specifically focused on that type of DL format because, the researcher thought it was the hardest form of distance education to develop and deliver.

Distance learning plan mangers are the individuals who will direct the implementation of the near-term portion of the ADLP. The PMs at the MACOM and institution levels will have a direct impact on the success of their DLP. Plan managers supervise the members of the OS and coordinate with organizations that indirectly influences the DLP.

Organizational structure (see figure 1) addresses all aspects of DLP. When defining an OS the PM should include the personnel, equipment, and the contribution other OSs, as well as, the contributions parent and subordinate units will make to meet the goals of the DLP. An OS should address connectivity requirements to peer OSs, both government and civilian sector, that affect or could affect the success of a DLP. The OS includes key personnel and specialized equipment, and also looks at management

relationships with peer OSs, relationships between the technologist and instructor, and the level of information sharing as found in consortiums.

Extemporaneous agents (EAs) are factors not tasked in DLP directives given to the PM. However, the impact of the EAs on a DLP may be considerable and should be addressed by the PM. For instance, if a PM's parent organization actively supports and promote the DLP that is called, buy-in. The relationship between the two organizations will be such that the parent organization promotes the success of the subordinate organizational. Ultimately, buy-in could be the difference of a DLP that is successful or mediocre. By identifying the EAs, a PM could establish an OS that is unique to the requirements of the target audience. The more EAs that are used as criteria in the design phase of an OS, the more probable the OS will meets the needs of the target audience during the near-term implementation.

In determining the primary questions the researcher made a few assumptions. Instructors were the most important element of the education system; all possible solutions must include instructors as part of the OS. Computer-based training must address the needs of the students (Colonel Francis J. Coppolla, 1997) and would be a part of the OS. An OS would have the functionality to develop and train instructors on the four level of software development. The high initial cost of technology investment was no longer a factor that PMs would use to limited the scope of their projects.

Distance learning is a huge area that could not be covered in one project adequately, to limit the scope this thesis focused on the computer-based learning. This is only noteworthy in the respect that there are numerous other DL media and techniques that could deliver education that this study will not cover. What was intended was to

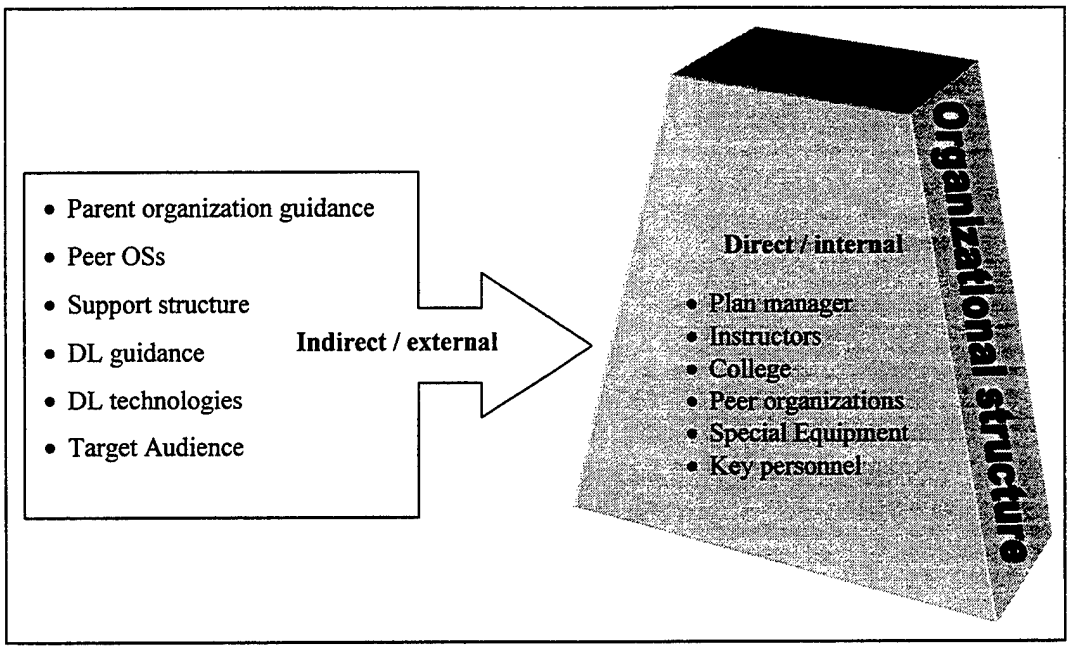


Figure 1. OS relationships

concentrate on training or education tools that were designed to use a computer as their primary delivery platform. Therefore, the scope of this project was restricted to the analysis of OSs suited to handle CBT and internet education. To that end, the research focused only on the factors that affected a CD-ROM and an internet based asynchronous learning environment and how those factors influence the OS. The scope of the research included training software received by file transfer protocol (FTP), worldwide web software, and software that was installed on a local computer by means of CD-ROM. Those three forms of DL media were used as factors when determining inclusion of an appropriate OS in this study.

This research did not cover a few areas that are synonymous to the term distance learning. First, it did not consider other distance learning methods, including video teleconferencing, audio or video distance learning, and correspondence courses. Second,

education modeling was not covered because extensive research already exists in this topic which was much broader than OSD. Third, the research did not consider the DLPs of the Air Force, Navy or Marine Corps. The greatest dilemma faced by the other services at the time of this project was they did not have a written DLP. Their DL efforts were concentrated on training and not education. The Air Force had centralizing its DL resources and used the video-teletraining (VTT) as its primary mode of delivery. The Air Force DL structure did not have PMs at the major commands (Lieutenant Colonel Fred Vombrock). The same could be said for the Navy. The emphasis of their DL efforts was on establishing of Navy smart ships. The Navy's intent was to introduce DL to augment job proficiency and training at sea as well as at traditional institutions. Distance learning or training would meet the needs of individuals that had to become more knowledgeable on procedural tasks (Lieutenant Commander Joe Rainey). The Marine Corps had a different focus on how DL would assist in the education and training of the corps. The proposal was to give DL at all stages of a Marine's educational and training development. The Marine Corps had designated a hierarchy much like the Army's in that there were regional and unit facilities that had a different role to play in the DLP. Where the Marine Corps training methodology differed to that of the Army, was the amount to training the service actually conducted. The Marine Corps outsourced more than 60 percent of the training and education Marines received (Lieutenant Colonel Steve Jones, 1997). The large amount of outsourcing for traditional instruction lends the researcher to believe the DL instruction would follow the same course.

The Research Model

This thesis employed several research methods to collect, analyze, and interpret the resultant data. The initial research began with a literary review. During the months of October and November 1997, resources in the field of DL were read to establish a baseline of knowledge. Although intensive, the literary review did not cover all the DL resources available, but sampled at least those items identified as valid. A questionnaire was constructed to collect data and the results of existing surveys were used in the analysis. The questionnaires were used to conduct telephonic interviews with PMs from two separate segments of the DL community. Data that was also collected from existing results of prior research came in the form of college DLP descriptions. Together the two sources were used to build an evidence database to conduct the analysis. Each research phase took the approximately one month to complete. This project used a summary analysis model to apply to the data collected. A summary of the data was used to identify patterns as they were in the field of DL. It was the intent of the researcher to communicate with all PMs of the TRADOC organization and a representative sample of the civilian educators. The data from the two areas was compared and conclusions drawn.

CHAPTER 2

LITERATURE REVIEW

Extant knowledge in the establishing and running distance learning plans (DLPs) is extensive. The primary focus of the majority of the literature focused on the key personnel that were needed to cover the many aspects of a DLP. Other researchers had discussed how unplanned events could influence the operations of a DLP in an adverse manner. A small group of authors addressed important factors that should be considered when establishing a DLP, while others delve into the theory of distance learning and how it differed from traditional instruction. This section will examine the approaches of earlier research to determine if it supports organizational structure development (OSD) and the procedural requirements of developing OSD criteria. This section will also explore patterns of thought and gaps in the finding of prior research and ties it has with this project. Lastly, this section will explore the limitations or bias of the distance learning (DL) knowledge that plan managers (PMs) should be aware of before starting to distance learning plan development (DLPD).

Several authors addressed how to establish a DLP. Unfortunately, there were no resources that addressed the procedure for OSD. Notably, Elizabeth C. Thach's explanations in *Effective Distance Learning* were well conceived and served as a useful departure point for the Army Distance Learning Plan (ADLP). Thach laid out an exacting set of questions that a PM should ask when starting a DLP. She did not address OSD per se, but explains the process for analyzing the requirements of a DLP. The process uses a set of questions to analyze the needs of an organization before a DLP was

started. The conclusions included analysis that addressed qualifications [for DL], course [selection], audience, technology and system support (Q-CATS). The answers the PM derived from the analysis could influence topology of the OS. This source discussed how to select a technology media to support one of the three types of learner goals (cognitive, attitudinal, and psychomotor). Thach introduced the five phases of developing a DLP; analysis, instructional design and technology selection, team course development, implementation, and evaluation. It was within the middle sections (instructional design and technology selection and team course development) that she come closer than any other researcher to talking about OSD. Although, Thach did not addressed OSD requirements, but the article lays a solid foundation and a departure point OSD literature.

Learning Resources and Technology: A Guide to Program Development was a good source that attempted to address the factors for developing an OS. The source explained the steps the Connecticut State Department of Education took to start its DLPD (1991,14). Where this reference becomes particularly useful was that it provided guidance to appoint an advisory board to oversee the process and provide a link between the technologist, learning resources, educators, and the participants. The advisory boards are one level removed from the DLP and could provide overall guidance on factors that affect the plan as well as how to structure the staff.

Contemporary Issues in American Distance Education is a compilation of articles that address issues that organizations and administrations would encounter when conducting distance education (Moore 1990, 22). There are seven basic topologies, referred to as institutional structures, which characterized the distance education administration (24). Of the seven topologies, four served DL alone and three supported

DL and resident institution administrations. The topologies were important to OSD in that they explained the different types of relationships that could exist between a PM and the OS. Moore describes the common binding characteristics of organizational topologies (12-13) and showed how an OS would augment or support the scope and mission of its parent organization. An OS has to meet the needs of different groups and it is the responsibility to the PM to establish a framework after looking at all possible influences.

Distance Education: The Foundation of Effective Practice by John R. Verduin Jr. and Thomas Clark (1991) augments Moore's discussion on organization administration. This was a source of meta-OS modeling that laid out different OS models based on the DLP's focus or center. Verduin and Clark discussed the reasons for having an OS that was centered on certain populations associated with education. The discussion made clear how student-centered modeling could make your DLP more successful in meeting the needs of the learner. Other models for developing an OS include instructional, societal, and transactional (Verduin and Clark, 167). The authors introduced the topic called model dimensions. Model dimensions characterized the associated types of OSs that a PM could develop when there was particular learner in mind that the DLP would serve. This reading will help PMs recognize that needs determine what model an OS will adopt. Because of its formation, an OS could focus on addressing the collective needs of the institution or individual needs of the learner.

Distance Teaching for Higher and Adult Education discussed the areas or activities that are associated with DL systems (Anthony Kaye, and Greville Rumble, 1981). As defined by Kaye, the DL system was synonymous with a DLP. Kaye

illustrated that systems would generally deal with student concerns, course implementations, logistical, and economics issues. Kaye, a recognized DL expert, described the characteristics of an open system and the associated considerations one must make when as a member of that type of DLP. The ADLP's conceptual design will take advantage of the benefits an open system affords (ADLP). The authors did not address the connection to OSD because there was never a discussion of how to organize the people to make this all happen. The assumption would have to be made that it was understood how to coordinate the correct mix of talents to operate a DLP in order to take advantage of their skills.

Distance Education: A Practical Guide addressed the factors that go into developing an OS if you had an institution already in place with the skills sets needed to accomplish CBT (Barry Donald Willis, 1993). Willis made a strong case for the importance of using the key personnel in the organization (he refers to them as key players) during DLPD. These individuals will play an important role because skills that will bring from their domains to the OS. For instance, he explained that certain technologist would play an important role in converting distance learning courseware (DLC) from traditional courseware. He identified the importance of the individual but did not show how to integrate them into the OS. Where he and the previous authors fell short was they did not address OSD and the factors needed to start the process.

The extant knowledge in DL was not limited to how to analyze and configure a DLP. Authors were also concluding that once a DLP was established they were likely to have unplanned factor impact on their operations. These factors, called extemporaneous agents (EAs), would affect the DLP in ways that a PM may have not considered. One

could conclude that EAs were the equivalent of implied tasks, or that they were areas may not be inherently obvious for consideration when a PM starts DLPD. These sources were helpful because they outline critical planning considerations that PMs should have in mind when establishing OS. *Foundations in Distance Education* (Desmond Keegan, 1990) was such a book. Keegan, a researcher with numerous years of DL experience, but his research did not address OSD requirements. As a plan developer, he placed the emphasis on the learner. That emphasis is important for other PMs to understand, because they have a responsibility to meet the needs of both the learners and the institution. Keegan described ways to boost the freedom of the learner while still meeting the needs of the institution. Simply, CBT tools should allow the learner to proceed at a self-pace and give the learner the ability to select goals and activities to complete at different intervals. This research addressed the importance of EAs but did not show OSD could be met by selecting good individuals. The requirements for OSD could have been addressed by taking the same information that was used for the DLP and apply it to an OS.

Another good source for EAs was *Faculty Resource Guide to Distance Learning* (Western Interstate Commission of Higher Education or WICHE, 1991). A compilation of articles, although basic in depth, had outlines that addressed evaluation and needs assessments, the use of site facilitators, the role of support services, and lesson planning. Most notably in this report were the bibliography and author information at the end of each chapter. This was a good initial source when starting to read about DLPD.

Two sources introduced the researcher to the problem associated with the lack of DL buy-in and illustrated why the problem was important for PMs to address before they

attempted to establish an OS. *Instructional Telecommunications* (DeLayne R. Hudspeth and Ronald G. Brey, 1986) write about the importance of creating a positive attitude among the members of the OS. "Attitudes of the learning resource center personnel are the key factors for providing support."(40) It is the responsibility of the PM to influence the OS in order to provide effective DL products to the learner. Robert Price identified in the *New Mexico Challenge 2000* report to the state board of education, that public buy-in was necessary before the state's DL efforts could reach fruition. The state needed to get the support of education, technology, parental, student, and societal groups, before the board thought its DLP would be successful. Both of these prior works had introduced a topic of discussion that could impact the parental unit--OS relationship, however, the discussion did not illuminate OSD and show why applying the same approach will work before the DLPD starts.

Lucent Technologies' *Center for Excellence in Distance Learning* (CEDL) has a world wide web (www) location where EAs were explained in detail. This group of authors made a connection with how factors that determine your DLP could affect OS. In *The Guiding Principles of Distance Learning*, buy-in was referred to as organizational commitment. In this principle, the responsibility was placed on the institution to address any issues it had with buy-in before assigning DLPD responsibilities to a PM. By making that a requirement prior to the assigning the PM the DLPD task, the OSD occurred with all the parties that were providing input are already willing to accept the new training method to OSD. The Lucent's CEDL used a slightly different approach than other DL authors, in that, the importance was placed on preparing an OS to manage a DLP before the training began. Also offered were discussions of EAs such as learner-

centered focus, quality in DL and professional development of DL educators. The information provided at Lucent Technologies' CEDL web site dovetails well with this project because the site was designed to provide change management ideas to other companies that had little or no DL expertise.

Analysis of the available DLP literature disclosed a major gap in writings applicable to OSD. The sources were written by some well-respected authors in the field of DL or given as guidance to start an Army-wide DL consortium. The first of these sources was the *Army Distance Learning Plan (Draft)* (ADLP) published by The Army's Training and Doctrine Command (TRADOC, 1996) which was not very helpful in identifying how to establish an OS. What this keystone document failed to do was to identify how OSD should proceed the implementation of the plan. The ADLP assumed the solution for Army's DL requirements were homogenous. By hiring contractors to convert courseware, TRADOC implied there that were no requirements to conduct local OSD and the contractors would meet the technical expertise delta that existed with most Army PMs. However, contractors were not flexible enough in the execution of courseware conversion to meet the local educational and training needs facing PMs. To maintain local focus, PM would have to augment OSs to assist with the unique near-term requirements. It is not difficult to assemble the required subject matter experts (SME), along with the written course material and provide them to the contractor for course conversion. The assumption that the plan made was the solution would be viable to the contracting PM. The ADLP skipped a crucial step in its attempt to organize a huge consortium for distance training and education. This plan never addressed how to provide effective DL if the converted courseware did not meet the requirements of the

PM. To address that problem, the plan would also have to provide the PMs with the tools to conduct OSD and as stated earlier, it had not.

The realization the document provided only an end state for PMs, with no guidance on how to initiate near-term execution of the plan that was disappointing. The ADLP was designed to address the mid-term goals of four to ten years for a broad areas that include training facilities, readiness technology, media selection for interactive courseware (ICW), and total application integration for the Army. The program never addressed how to incorporate people and equipment into an OS. There were in excess of ten near-term objectives and none of them addressed the PM's execution of the ADLP. The researcher found the focus to be more on the institution and not on the PM and the responsibilities a DLP brought with it. The ADLP should not be a PM's only reference when starting a DLP, because it will not address a probable OSD problem facing PMs when the contracted ICW conversion is not practical.

Rossman's *The Emerging Worldwide Electronic University* (1992) did not have information about establishing an OS or give any EAs to consider. The source did address how to expand a DLP beyond the parent institution and include a larger body of people. This source detailed requirements for developing relationships with other OSs to find strategies for maximizing resources while sharing cost through participation in consortiums. *Distance Learning: Strategies and Tools* (Willis, 1990) addresses multiple topics in DL. The source did not provide any information of OS. However, after an OS is established, Willis provides a list of tips and techniques that will help to make a DLP more successful. *Distance Education Systems* (Sergio Elliot, 1990) did not address OSD. The report did a good job of laying out the requirements once an OS was established and

offered numerous flowcharts and graphs that provided a visualization of how the DLPD process worked.

The literature review brought to light several patterns of thought prior DL researchers had taken to define the domain. To begin, the majority of the extant knowledge was written in DL to give guidance to PMs who were associated with traditional education institutions. The authors recommendations and approaches implied that everyone would have the same level of financial backing and the structural foundation of an established educational institution. Hence, all the sources tended to address establishing OSs by drawing on the existing resources of the institution.

Another pattern that was prevalent in the literature was the use of OS models as a point of departure for OS. The presumption being that an OS could be established if the PM selects a predetermined model for running a DLP and staffed it by plugging in the appropriate personnel. There was very little similarity of between OSs of one college to the next. The topography or the parental organizational relationship maybe similar between two OS, but each will have differences that will require different solutions. If a PM uses an OS model it should be a reference point to determine how to organize and manage the functions of the DLP. The PM will still have to understand how to select equipment and assign personnel to the structure to meet the needs of the DLP. The models described here are templates that are easily mapped over an OSs after they are established, but not before. Most OSs will be unique and address the needs that are most important to the PM.

Lastly, the pattern most followed by the literature focused on the establishment of the DLP or distance education system. There was only tangential acknowledgment, by

an extreme minority that the OS should be the focus of the effort after the decision has been made to conduct DL. The results of this oversight were amplified by other authors as they layout the importance of the processes, such as DL needs assessment, over of OSD.

The prior research failed to address the needs of the DL PM that was not associated with a traditional institution. This gap was extremely noticeable, because PMs not associated with educational institutions would not have the experience of a pool of educators in their OS. The same was true for a lack of technologist and support staff. Organizations started by PMs that are born from non-traditional education institutions would find themselves short of the key personnel needed to give depth of knowledge to the OS. For example, the current literature did little to address how a PM in a major Army Command (MACOM) with no training as an educator or a technologist, could effectively establish an OS without substantial background research.

Computer-based training has gained popularity in the recent years, yet there was very little written that emphasized the need for OSD to meet the demands of a technology based DLPs. The technology requirements to manage a DLP were not only unique, but must be tailored properly for the needs of DLP media. The education technologist and other technology specialist would lend a level of expertise that could not be matched by traditional faculty. The only defense that could explain this gap in the literature was that the domain experts have not had the opportunity to adequately study this area to provide written documentation. If that was the case, this area needed additional study to facilitate the transition from tradition education to distance education (DE).

There was a great amount of extant knowledge in DL that address EAs. However, literature fails to show the connection between EAs and OSs. Prior research failed to show how EAs impact an OS or the roles EAs have during OSD. There were some cases when an EA had a tremendous influence on the DLP and PMs should have an idea how to use that influence to assist or detract from the establishment of an OS. It may not be clear how an EA like buy-in will affect DLPD until a PM fails to address it and the results of the programs are questioned. A PM could minimize critical analysis of a DLP if EAs are addressed early. However, literature to this point has ineffectively conveyed the impact EAs would have on establishing an OS.

Distance learning plan development and OSD designing are in great state of evolution. As education technologist focus their efforts towards the domain of distance education, the knowledge base will certainly become more robust. It will be a challenge for the members of the DL field to weave the important aspect of OSD into a framework DL. The aim of this research was to address OSD and the project recognized the need to define the requirements that influenced OSD before DLPD began. It was understandable that not many researchers had taken this approach since the initial thrust had been to get more proficient in DLPD. Developing the plan is an important step, but the plan may not be solid if the OS is not developed using sound practices. This research set out to discover if there was an OSD process, specified or implied, that members of the training and education community followed when their DLPs were initiated. If the process did not exist, the project hoped to determine the factors that were used to establish the OSs.

CHAPTER 3

METHODOLOGY

The Research Approach

This analysis employed an original questionnaire as the instrument to collect data from plan managers (PMs) in the distance learning (DL) community (see Appendix A for questionnaire). The survey was designed to draw from the PMs, their experiences in the area of organizational structure development (OSD). The method for administering the questionnaire was individual interview. This data collection method was chosen for several reasons. The first reason was it was the best way to collect the most up-to-date experiences of DL professionals. The field's best were developing new techniques and applying lessons learned on a daily basis. Many of those lessons and techniques had not appeared in the literature, but needed to be captured in this search. Second, there was not a great volume of references that spoke directly to OSD. No other research had laid the groundwork to document how the DL domain was establishing the organizations that were running its distance learning plans (DLPs). There were no known sources or compilation of references that had adequately cover the topic, so talking directly with the PMs proved to be the most effective way to get the data. Last and most important, an original survey tailored to draw out the PMs experiences, showed how the unique needs of each DLP were addressed. The PMs were given great latitude when answering the questions, and were asked to relate personal subjective experiences to show how they tackled the initial OSD and subsequent modifications to their organizational structures (OSs).

A select segment of the DL population was chosen to participate in the survey. The numbers of interviews were limited for two reasons. The first was for a more practical reason than research approach. The researcher wanted to reduce the number of telephonic interviews that would be conducted. The second reason was that only a select group of people had the knowledge to answer questions about OSD. Those people were the PMs or someone acting as the PM when the interviews were conducted. The plan managers were an important source of information because they interacted with more people in the OS, made more decision concerning the OSD and had a greater influence over management of the OS that any other person. This was not to intimate that other people did have an important role in the OSD process, but to suggest the PM was slightly more important because of the experiences they had in DL.

By interviewing the PMs across a diverse population the analysis rendered some unique solutions and approaches to the OSD. The survey participants represented both ends of the experience spectrum. Some were very skilled, with decades of both education technology and traditional non-resident studies experience; others were newly assigned PMs with no formal experience training, technology or education practices. It was expected that the resulting data could paint too extremes in OSD. One of a well developed DLP with a thriving OS that met the needs of the target audience and the other would have a DLP that was focused on developing DL products that met the needs of the institution and did little to address non-existent OS.

The prior discussions in the DL field did not include OSD, the lessons learned in establishing an OS or the subsequent changes PMs had to make to meet unplanned requirements. As far as it could be determined, there was no data in this area. There had

been research conducted on requirement's assessment, DLP milestones and objectives for establishing OSs, but no OSD. To begin to address this problem data was collected in three areas: existing civilian educational institutions, Army PMs that had started to establish OSs to meet the needs of their requirements as outlined in the Army Distance Learning Plan (ADLP), and personnel at the Command and General Staff College tasked with establishing DL interactive courseware (ICW). For the purpose of this analysis these groups were referred to as called data segments and were abbreviated civilian educators, Army PMs, and CGSC staff, respectfully. This project did not include corporate DL or CBT facilities as a data segment. Corporations training would offer valuable information and was extremely important area for further study.

Building the Data Segments

After the decision was on made whom to include in the survey, the three data segments were compiled. The civilian educator included twenty director or assistant directors from colleges or universities that had established or plan to establish computer-based distance learning programs (DLPs). The list was easy to gather by starting a search of the education links the worldwide web (www). The initial search of the Yahoo (Yahoo, Inc., 1998) search engine yielded numerous links and from those it was decided to use *Peterson's Education and Career Center* website (Peterson's Education and Career Center, 1997). Once on site the 'Distance Learning' link was selected which linked to the *Distance Learning* (Peterson's, Distance Learning, 1997) page of the website. From there the 'Search our Database of Distance Learning Programs' link was followed to another *Distance Learning* (Peterson's, Distance Learning Search, 1997) with links which refined

the search. The link 'Programs with In-Depth Distance Learning Descriptions' was selected and the Features section came to a page entitled *Peterson's Distance Learning In-Depth Descriptions* (Peterson's, Features, 1997).

The Peterson's Distance Learning In-Depth Descriptions page offered links to the description of seventy-seven distance learning programs at colleges and universities around the world. From that point, each program description was read and the institutions that had computers in the delivery media' section and toll free number listed in the 'contact' [for further information] section were selected for possible survey. Also included were universities whose contact numbers were in Leavenworth, Kansas local or local-long distance calling area. This selection criterion yielded a list of 30 institutions. Once the list was compile, each civilian institution was interviewed by telephone and the responses were recorded.

To build the Army PM data segment a slightly different approach was taken. The United States Army Training and Doctrine Command (TRADOC) in Fort Monroe, Virginia had a distance learning point of contact (POC) that provided an emailed listing of all the subordinate DL POCs. As directed in the ADLP, all TRADOC units were required to establish DL POCs (ADLP, 1996). To test the accuracy, all thirty POCs were emailed and asked to provide contact information. Of the thirty, fourteen answered initial requests for information. After updating the list of POCs, another email message was sent asking the POCs to read the problem that was being solved and gave a warning that their help was needed in completing certain portions of the research. They were informed that a questionnaire would come to them by email and would be followed up by a telephone interview. A copy of the introduction chapter was attached to the email

message. Seven Army PMs responded that they had read the chapter and would provide help to complete the research. The remaining PMs were contacted and a telephonic interview using the survey was given. See Appendix B for a summary of the answers provided during the interviews.

To build the CGSC staff data segment the Combined Arms and Services Staff School (CAS3) DL POC was contacted for an interview. Also interviewed were twelve other personnel on the instructional and administrative staff at CGSC. They each conducted an interview in person and their data collected. An original questionnaire was used as the instrument for collecting data from each of the data segments. To construct the survey, a unique questionnaire was developed to collect discriminate information from the different data segments. The areas of consideration for developing the

Table 1. Criteria for developing the research instrument.

Civilian Educators	Army PMs	CGSC Staff
• Student population • Relationship with parent organization • Relationship with course developers • Requirement for training instructors • Requirement for development of ICW • Assessment of DL program • Establishing, changing or adapting the OS • Assessment of instruction	• Student population • Use of the ADLP • Sharing knowledge with other PMs • Domain knowledge in DL • OS course of actions taken/not taken • Support from parent organization • Educational domain knowledge • Impact of extemporaneous agents (EAs) on DLP planning	• Student population • Assistance from DL knowledge base • Current management structure • Support from parent organization • Directed requirements • Tie-in to other local organization • Decision making/COA development

instrument were derived from the literary review, discussions with other researchers, educators and PMs working in the civilian and military OSs. The criteria used for developing the survey questions are in table 1. The lists of criteria were used to generate the questions that were used in the interviews.

Each data segment offered information that, when analyzed would impact on OSD. It was expected that each group of respondents had an approach to solving the OSD that was slightly similar in design, but different in practice. The reasons for these differences could have been explained by the PM's experience when assigned the task and the perceptions or expectations surrounding what implementation of a DLP. They all may have wanted to create an OS with all the same attributes, but did not have the experience necessary to organize or could not secure the key personnel to staff it. The point being that everyone involved in DLPD had an impact on this research because OSD, even if it was not called by name, was being conducted at all levels. To draw on the civilian educators' experience, their questions focused on OS relationship with the parent organization. The Army PM's questions related the lessons learned from interpreting the ADLP and establishing an OS to met the needs of the military. The CGSC staff questions focused on understanding the requirements of establishing an OS and identifying solutions to meet their requirements.

There were a few areas of consideration for the data segments that a straight comparisons were warranted. The comparisons were conducted to determine which factors played a part in how the OS was managed. For instance, there was an inference that could be drawn if a PM described the measure of success for a DLP as maintaining a high enrollment, instead of maintaining the same quality of education as the traditional

program. If the enrollment remained the same or increased, it was unlikely the OS would change. However, if changes were made they would be to meet the administrative needs of the institution and not the educational needs of students. The first comparison was how each member of the data segment measured success. How an OS measures success should have a direct tie-in with its stated objectives. Second, the analysis compared the DLP objectives for each member of the data segments. A comparison of the DLP objectives could bring into focus the reasons why some OSs were inherently different in staffing and management. It would seem trite to assert that OSs with different objectives, had different topologies or different relationships with their parent organization, but that powerfully plain assertion was not taken into consideration by many in the DL field. The third common area was the how the OS was funded and the role finances played in everyday operations. The assumption being that PMs with dedicated funding could begin development sooner because; the DL funding was addressed and would provide a limit of advance for any possibly OS configurations. Lastly, the researcher looked at how the data segments assessed the effectiveness of the DLP and its ability to transfer of knowledge.

To validate the criteria used to develop the research instrument, a series of pre-interviews with individuals across all three data segments were conducted using several versions on the questionnaire. As a result of the initial study, several questions were eliminated, while others were refined to add more clarity to the question being asked. This was done for two reasons. First, to ensure the right questions were being asked to collect the right data. The DL domain is constantly changing and to get a snap shot of its

Table 2. Data segment attributes.

Civilian Educators	Army PMs	CGSC Staff
• Decentralized • Long-standing academic experience • Enrollment driven • Flexible academic environment • Long-term focus • Separation of technology and academics • Education products	• Centralized • Worked the ADLP • Recent lessons learned • Minimal domain knowledge • Focused on outsourcing requirements • Training and education products	• Developing needs requirements • Reactive approach • Minimal domain knowledge • Long-standing academic experience • Template driven • Education products

current state the most relevant information needed to be drawn from the field. By fielding the question to a sample audience, the researcher was able to determine which questions would not collect data that would be relevant in answering the primary question. Second, it was important to collect data that could be analyzed to provide relevant findings to apply to the current CGSC situation. The aim was not to ask the population of the three data segments the same questions. Instead, this project sought out to determine what unique attributes each segment had that would provide information to answer the research question. The attributes are listed in table 2.

Procedure for Evidence Collection

Telephone and personal interviews were used to collect the evidence. All the members of the civilian educators data segment provided their responses to the researcher by telephone. The civilian educators were not given the questions in advance, but were allowed to answer the questions after giving it some thought or coming back to it all

together. The members of the Army PM data segment were allowed to preview the questions prior to receiving a phone call from the researcher. This was possible because there were a finite number of Army PMs and their email addresses were readily assessable from the TRADOC DL POC. The members in the CGSC staff data segment were given a few days warning by email or telephone and interviewed in person after some initial background information on the research was discussed.

The interviewer asked the question and allowed them to respond in narrative form. The narrative form was used to collect the data to allow greater freedom in the ways questions could be answered. The guiding assumption being that every member of the data segments had different requirements to establish an OSs, different inputs to the managed of the DLP, and different goals, the researcher wanted to capture in the analysis. The responses were then broken down and analyzed to reveal patterns that to answer the research questions.

Procedure of Evidence Tabulation

The evidence was tabulated by data segment to identify board patterns of DL practices shared by members of that data segment. The analysis identified and annotated the data segments' commonalties and differences to draw out what factors were used to conduct OSD. The purpose was to identify data that had special emphasis on the unique attributes discovered about an OS. This evidence included extemporaneous agents, unique requirements of a particular member of a data segment, and evidence that was outside of what the researcher expected to collect. What was not done was to apply a statistical model to analyze the data. There were some basic statistical comparisons

conducted to reflect the survey questions that were and were not responded to during the interview.

CHAPTER 4

THE ANALYSIS

This chapter is a detailed review of the collected data and the results of an analysis to determine the factors that influence organizational structure development (OSD). The summary model was used for the analysis and required the researchers to examine the data, and define patterns of action or thought. From those patterns, the analysis focused on the broad characteristics of the three data segments (DS). The DSs were defined as the Army plan managers data segment (APMDS), the civilian educators data segment (CEDS) and the Command and General Staff College's staff data segment (CGSCDS). The first two DSs provided data on the factors leading up to organizational structures development (OSD) as they pertain to distance learning plan development (DLPD). As a result of examining OSD requirements, conclusions were about specific areas of DLPD. The Army plan managers (APMs) were asked to provide feedback as to how the Army Distance Learning Plan (ADLP) had augmented OSD and the civilian educators (CEs) focused in greater detail on the organizational structure (OS) relationships with parent organizations. Since it had not conducted OSD, the Command and General Staff College's (CGSC's) staff provided data that reflected the computer based training (CBT) needs of the college.

After analyzing the data the following emerged as the underlying patterns of thought in the DSs. First, the CEs generally had a traditional hierarchical management structure with one person responsible for the distance learning plan and two to three subordinates handling different staff functions. Civilian educators had a direct

relationship with their parent organization and could consult with them when guidance was unclear or changes to the DLP were imminent. The parent organizations generally provided good support to the OS and displayed buy-in to the DLP. It was evident that the OS met the overall needs of the parent organization. The parent wanted to keep the overall college enrollment high and distance learning was one of the methods used to accomplish that goal. Colleges not only saw distance learning (DL) as a source of revenue, but a branch for continued educational vitality.

Second, Army PMs were not confident with the ADLP to provide the guidance necessary for OSD. The plan was seen as a skeleton document with minimal applicable guidance for Army PMs to use in establishing DLPs to provide quality distance education or training. Army PMs found the solutions offered by the ADLP for courseware conversions to be too restrictive and would not meet their needs in the near-term. Army PMs continued to evolve in their understanding in DL and were comfortable that their plans would come together. Any initial setbacks were viewed as temporary and there was a sense of optimism that DL was a good education technique and the Army would benefit from using it.

Finally, the CGSC staff was still in its infancy and trying to determine how to initiate OSD for its DLP. The staff stated that CGSC understood the needs for CBT as outlined in the ADLP and thought they could execute its portion of the plan. However, its execution could not be initiated, provided the current state of support provided by its parent organization remained the same. Simply stated by a staff member, "we cannot get there from here." The support and infrastructure had not been formalized to give the

CGSC staff the preliminary DL boost. Research conducted at the CGSC staff level had revealed that the problems they encountered were not unique to their OSD. Slow incremental development was common with other peer OSs. The major concern was the suspense for completion of Combined Arms and Services Staff School's (CAS3) courseware conversion was approaching and the CGSC staff did not think they were adequately funded or had the prerequisite skills to complete the milestones leading up to that event. However, they were actively completing those items within their capability and planning for the day when their DLP would be finalized.

The analysis of the DSs generally followed the patterns expected. Each DS was in a different stage of development that was based on when its planning had commenced. The data for the CE generally concluded they were comfortable where they were and expect continued progress. The same conclusions could not be drawn for the APMs or CGSC staff. They were not where they had hoped they would be given the initial claims of the ADLP. However, those results were predictable because neither DS fully understood the scope of OSD. What was not predicted was that no DS generally followed any formal OSD. The data was analyzed to draw out the factors that influence OSD, the conclusion was drawn that very few CEs or APMs used a set of factors to conduct OSD that were separate from those used to DLPD. Without exception, most plan managers, Army and civilian alike, used the DLP to drive their OSD. The data supported that OSD was an aside or an afterthought to most PMs. Most CEs and APMs developed DLPs and then developed the staff to administer the plan. The pattern of OSD was

similar the respect that they both conducted DLDP, then initiated OSD. Further analysis showed the steps the DSs took to derive their OSs were slightly different.

Since most CE started their DLP using an existing college organization, the CEs drew upon the experience of numerous faculty and department members to provide complementary information for OSD. The DLPD staffs were large. Normally three to seven people that answered to one director who answered to the dean of the college. The staff had experience in continuing education, computer science, departmental management and education. Research revealed that the most of the surveyed colleges never assigned a PM to run a DLP who had not previously chaired, or acted as the assistant chair, of a major department in the college structure or similar organization. For CEs, DL became an additional area of responsibility that grew into their primary job over time. Having previously departmental chair experience may have provided CE with the additional skills in which to transfer to DLPD.

Once a CE had a staff, it was then decided which degree programs would be offered and the appropriate department developed the courseware for DL. All but one CE stated that the DLP started with one degree being offered and others were developed over time. What the CEDS showed was a sharing of distance learning courseware development among PMs and subject matter experts (SMEs). The DL director allowed the instructors responsible for the courses to take part in developing the interactive courseware (ICW). At least half of all the respondents in the CEDS had, or were going to initiate, programs that trained college professors in interactive courseware development (ICWD). The instructor, not the PM, at most civilian institutions chooses the format their

ICW would take. Most chose hypertext markup language (HTML) or communicated by electronic mail (email). Others selected the college based proprietary DL delivery system to instruct students and only saw the student once or twice a year. The conclusion was drawn that for the CEDS's OSD was working even through it was not a formal process.

After learning how CEs conducted DLPD, there was still no formalized procedure for OSD or the requirements that drove OSD at universities. The data suggested that OSD was not a new phenomenon for CEs. It was just a new name. To conduct any restructuring most universities looked for internal solutions or hired internally. The universities did an analysis on the needs of a DLP and designed an OS to meet those needs. Although the CEs used this model for OSD, the researcher contends that designing an OS to meet the needs of a DLP was wrong and should not be practiced. One obvious reason was the plan could change and leave an OS woefully understaffed to meet its requirements. Adapting to change was an area CEs were able handle better than initially thought. One-half of all CEs surveyed had DLPs that were in a state of constant redesign. They were being redesigned because the PMs were attempting to meet the needs of the students or attempting to leverage new technological advancements the field was developing. These changes were indicative of DLPs that were student centered or were designed to meet the specific needs of the target audience. The DLP design provided instruction in a way that met students' needs, while the students gained practical instruction. In one instance, the DLP was targeted at specific area in the job market that was identified as an overwhelming requirement. That plan was tailored to provide practical work instruction in the field of marketing, to a student population of mid-level

supervisors. The data suggested that most CE did not change the OS when the DLP changed, but changed the individual responsibilities of members within the OS to meet the new need. This may accounted for the reason why OSD was not a formalized area of consideration for CE.

The same could be said for the APMDS. Analysis of the data showed that there was no formal tool used for OSD. All but three members of the APMDS followed the same general OSD pattern. They represent the minority of the DS, which will be discussed later. The data from the majority of the APMDS supported OSD followed generally the same pattern. To meet directives of the ADLP, installations and Major Army Commands (MACOMs) were directed the start DLPD. At these levels, one to two officers or civilians were assigned as the DLPD staff and began developing the DLP. The supervisor was normally a field grade officer or its equivalent. The DLPD staff read the ADLP, received any additional guidance from their parent organization and developed a local DLP. The PM normally attempted to convert the courseware that the local DLP would control. If there were classes needed by the PM and those classes were outside local control, coordination was made with peer organizations to incorporate the new ICW into the curriculum. Regardless of whoever took the lead on the conversion, a contractor was called in to assist the staff. The DLPD staff had to develop both the DLP and address the issues associated with courseware conversion. If the courseware was scheduled for conversion under the ADLP, the entire process was straightforward. The DLPD staff would confer with the Army's contractors and provide them the subject matter experts (SMEs) and course materials to conduct the conversion.

The data suggested that members of the APMDS did not have the depth of experience for starting DLPD. Many PMs were new to the DL domain and did not have a foundation of experience to draw upon. The nucleus of DLPD staffs in the APMDS did not know how to precede with DLPD without extensive individual research. This DS did not have a pool of experienced educators and technologists to assist them in their immediate planning. Subsequently, many PMs took their concerns to their parent organizations. The parent organizations generally responded in one of two ways to the inquiry for assistance. If the parent organization was The United States Army Training and Doctrine Command (TRADOC), the inquiring DLPD staff received help that mirrored what was represented in the ADLP. If the ADLP did not adequately address the particular issue, the DLPD staff was not given a satisfactory answer. It was clear that people at all levels of DLPD were experiencing a lag in resolving problems because the domain was developing techniques and procedures for DLP at the same time they were conducting DLPD. In the interim, TRADOC became better at addressing most of the concerns that came from the lower levels. The assistance from the higher levels became better for two reasons: there were more experienced PMs to answer questions in the field and TRADOC staffs began to share solutions to unique or specific areas of concern to the APMs. The data did not support that the percentages of initial DL questions TRADOC representatives answered were satisfactory to their immediate subordinates.

Within this majority about two thirds of the respondents parent organizations were one level below TRADOC. In instances when TRADOC was two levels above the DLPD staff, guidance was slower to reach the requesting PM. In the APMDS, many

staffs found it difficult to convey to their parent organization the numerous variables impacting the DLPD process and what had to occur before DL would commence at their level. Most parent organization did not know enough to provide solutions to the problems the PMs were experiencing. Hence, DLPD staffs were left to come up with solutions to their problem without great assistance from their parent organizations. In all fairness, this trial and error approach was very common in with many new DL systems. It was especially noticeable in organizations that centrally plan, but decentrally execute their DLPs. The research showed that most of the APMDS felt comfortable that they would progress in DL at a rapid pace. Most felt that their DLPs would change as new techniques were developed and information sharing becomes more common among the members of the Army DL community. It was generally understood that other PMs were experiencing many of the same local problems and the data suggested that the decentralized execution of the ADLP may have added to the initial learning delta. The majority of this data segment wanted to receive more practical guidance from TRADOC on how to design and implement their DLPs. The members of the DS were short on experience and a foundation in DL, but they were not short on sound ideas to make Army DL better.

As noted earlier, three members of the APMDS followed a different pattern in their DLPD. Their approaches were different because they drew upon experience that was directly transferable to DLPD. Generally, they all had advanced experience in education, technologies, or extensive experience that integrated well with DL. The data supported that they had a stronger grasp of DLPD and could to overcome common DLPD

issues without a great deal of outside support. What was unique about this minority was they were further ahead in DLPD and establishing OS to manage them. Additionally, as the data was analyzed, it became clear that the minority in this DS had well-defined OSs with clearly defined missions and objectives. One PM managed an OS that contains over thirty workers from numerous directorates. That particular OS had evolved from a single cell that handled all aspects of the DLP internally, to an open management topology that was leveraging the resources and skills of workers in peer units without assuming administrative responsibility for them. Once again, this OS was headed by a PM that had an education background with numerous years of experience, which accounted for some of the organization's success. The DLPD staff of three people, in this case, were able to design, implement, and staff an OS because they had up-front funding, equipment, and buy-in from their parent organization. Their parent organization wanted the OS to succeed and established the conditions to assist them. It was clear that PMs who were given even small amounts of monetary assistance, advice from consultants, or infrastructure assistance were able to start up the DLP quicker. The data equally supported that when PMs felt they had support from their parent organization and the population of people that would augment the OS (e.g., teachers, technologists, infrastructure managers), it was easier to work through the obstacles facing DLPD. Being able to overcome obstacles accounted for APMDS optimism about the future of Army DL. Cooperation at the local levels was high when it came to solving many of the DL issues. As was noted in the CEDS, most people had experienced some support or

buy-in from members of their institution or college. This was one attribute of OSD that both DSs shared.

The CEDS and APMDS shared another similarity. As with the CEDS, the APMs in the APMDS did not have a formalized set of requirements for OSD. The data supported that members of the APMDS established OS based on the needs as identified by their DLP. The DLP was developed and then the began OSD to administer plan. A clear conclusion was that OSD was not an issue that was seriously considered by members of the APMDS.

The pattern of OSD was alarming because it did not exploit the skills that were inherent to the Army staffs. There was a slim expectation that this DS would yield a different procedure of OSD, because of its association with the military. As a culture, the military was process driven for certain activities, but there seems to be no process for OSD. For an organization that staffed and equipped its combat units to have a particular capability, the APMs should have recognized the need for capabilities-based OSs over a needs-based OSs. To establish needs-based OS would be akin to organizing a tank unit who's only mission was to destroy one type of enemy tank. If the need to destroy a new kind of enemy tank arose, the tank unit would be ineffective. At the time of this study, the Army designed units and fielded equipment that had certain capabilities. A capabilities- based tank unit could destroy a tank, sit in an ambush, work with aviation units, be part of a cavalry unit, operate in three tank teams, etceteras. It seems clear that defining the capabilities of an OS would have been a good place to start when trying to determine the requirements for OSD.

CGSC was in a DL growth period. The DLPD staff was trying to determine the needs of the college, while trying to manage the DLP requirements established by TRADOC. The CGSC staff data segment (CGSCDS) revealed some expected patterns of thought while they were attempting DLPD. An analysis of the data supported that most college staff members directly involved with DLPD understood the needs of the college as they pertain to the requirements outlined in the ADLP. The DLPD staff working on the ADLP requirement consisted of two officers who interfaced with the separate directorates and staff sections of the college, as well as, the nonresident study division. The staff had an advisory position to the separate divisions of the colleges, as well as, to the single officer that made up the DLPD staff for the courseware conversion for CAS3. The analysis was based on the CAS3 DLPD staff level, where the preponderance of that data was collected.

The CAS3 DLPD staff understood the requirements the ADLP had put on its division of the college. Those requirements ranged from preparing DLP milestones, to managing ICW conversion. The needs CAS3 had were monumental in scope, but the staff had grasped the essence of their task and was establishing milestones to prepare for implementation of the DLP. As a staff of one, the officer in charge of DLPD was overwhelmed with the countless number of tasks required at the implementation level, and there was very little time to devote to OSD. At the time of this study, an assessment of CAS3 needs had occurred and a review of peer DLPs and ICW outside the college was conducted. The PM was engaged in the daily implementation of the DL milestones and spent very little effort on the strategic needs of the DLP. There were numerous ADLP

requirements being met that required intra- and inter- agency coordination. Much of the coordination was conducted to determine where CAS3's DLP fit in the Army DL consortium and provide to the college's DL director with a snapshot of the progress, which was ultimately passed to TRADOC.

The major accomplishment met by the PM to date was the digitization of the course material and a well thought out list of milestones. Since the PM was fighting the close fight, other staff members had to be identified to address the strategic needs of the CAS3 DLP. The other staff members did recognize the need for strategic planning, but were unable to meet those needs because they were assigned to other responsibilities within the college.

The CAS3 DLPD staff was making inroads at identifying their needs and providing progress reports to the CGSC's DL director. At the director's level, there was still a requirement to identify needs of the college. There were specific needs that had not been identified because the college was still trying to determine its contribution to the Army's DLP. The director hoped the addition of newly trained DL personnel would offset the experience delta that existed and would facilitate a speedy changeover from traditional instruction to distance learning courseware. New requirements not withstanding, the director had identified those items that could have impacted college's near-term execution and established milestones to meet them.

The results of the analysis, to this point, have been presented in generic terms to illustrate the patterns that existed in DLPD amongst the three DSs. The next section will discuss in detail those areas of data that helped to answer the research questions. This

section will restate the sub-questions, summarize the responses, and draw conclusions. There will be some statistical data introduced only when providing the mathematical results add clarity to the analysis. However, for the most part, the analysis will be a summarization and will not identify the individuals that provided data when specific examples are used to illustrate critical points. The analysis will compare and contrast the APMDS's and CEDS's approaches to OSD. In some instances, data from both DS will be combined to draw conclusions and provide information. Included in the analysis are results that were not expected prior to the data collection and areas for future that this study will not adequately examine.

Plan Manager Comparison

The differences between the APMDS and CEDS could be easily substantiated by the examining the demographics on the PMs. The PMs in the CEDS had a clear advantage in several areas over the APMDS counterparts. The CEs averaged over nine years of experience in their field of DL, with the most experienced having fifteen years of education related skills. On the average, the CEs PMs had 3.2 times as many years of experience than the APMs. The characteristics of the APMDS explained the deficit in DL experience. The survey included twenty APMs with an average of 1.9 years of experience in DL. Of the twenty, there were four APMs with advanced degrees in a field that pertains to DL or education. Four of the remaining sixteen had advanced degrees, but none were associated with education. Three APMs had received preparatory DL training prior to assuming the DLPD role. Conversely, the CEDSs had a stronger

foundation from which to establish DLPs. Included were twenty CEs from four-year undergraduate and two-year graduate degree programs. Eight of the twenty had advanced degrees in a field that could easily transfer to DL. Three CEs had degrees in education and the remaining nine had bachelor degrees, but not in the areas of education or education technology. The average DL experience level for non-DL degree holders was 2.3 years.

Establishing DLPs seemed easier for the CEDS. On average all CE DLPs started instructing students within one year of initiation of DLPD. The non-DL degree holders were able to get the DLPs running to provide instruction that replaced or augmented the traditional education offered by the institution in a short period of time. Three of the twenty CEs had programs running in less than six months from when they were assigned the task to establish a DLP.

The CEDS was off to a great start in DLPD and their success had some identifiable origins. They had the luxury of a pool of CEs that gained experience while working the same job for multiple years. This was unlike ten of the twenty APMs that switched positions every one to two years. The DLPs administered by the CEDS experienced a quicker transition between incoming and outgoing PMs and changes in the OS, because as a group they were more likely to manage the changes better. When a PM in the CEDS vacated a post it was more likely that the position would be filled with a replacement that had the same number of years of experience or by someone from within the OS. Army PMs switching from tactical jobs to PM positions would spend valuable time getting proficient in the skills necessary to manage a DLP. After an APM becomes

proficient, they again get rotated out of a position and the skills they acquired goes out with them. The new Officer Professional Management System (OPMS) should address this in the future, but the current lack of stabilization of APMs did not lend itself to DL continuity. The OSs run by the CEDS had greater continuity and provided a superior service to the user because the PMs stayed in positions for a longer period of time.

The CEDS had fewer problems filling PM position in the near-term execution of their DLPs. The proliferation of new DLP would not outpace the number of qualified PMs in the college system. By counting the number of PMs, assistant PMs, developmental department chairpersons, and technologist in this survey, one can conclude that there were at least three, and in some cases four individuals capable of managing an OS. The management staff was robust because OSs in the CEDS trained and hired new PMs from within their organizations. The PMs established strong professional ties with one another, and college administrators. The ties also existed between the CEDS PMs and the presidents of the respective colleges. Up and down the management chain, individuals in the CEDS were trying to make the OS succeed. The relationships were so well developed that in several cases the PM answered directly to the head of the college.

The OS was thought to be as important as other academic departments in the college. In seven cases, the OSs had budgets that exceeded the combined budgets of one-half of all other departments. The DLPs surveyed were believed to have had a significant role in the future prosperity of their colleges. The PMs were forging new professional bonds with faculty that recognize the future of DL and wanted to convert their lesson

plans and establish web based DL. Plan managers actively develop bonds with people outside their current OS and expose them to DL opportunities while exploiting the unique knowledge the people possessed.

The CEDS's parent organizations had placed great importance on the success and stability of their DLP. Most of the PMs had a good working relationship with the parent organization because the college saw the DLP as a source of future revenue. Based on the potential revenue from the admissions of new students, PMs had well-respected status and OSs were seen as key to the survival of college. Subsequently, their parent organizations established the conditions which gave the OSs the greatest opportunity of success. These opportunities came in the form of providing funding, staffing, infrastructure support, and clear guidance from the parent organization that emphasized incremental execution of the DLP. Only one PM surveyed was operating on what was described as a "shoestring budget," due to recent cuts and realignment of departments. In any case, they all seem to have a high level of support from their parent organization.

Understanding the Student Population

The students of the survey participants represent a wide segment of the educational population. The student body could be best characterized by identifying the slice of the population that the OS had targeted to educated. In some cases, the population that was served by the DLP differed greatly than the population the traditional college served. For instance, the CEDSs' catered to high school, undergraduate, graduate, and continuing education students. Some of those students were local

Table 3. Civilian educators student demographics

ce1.0 What are demographics of the DL students?	
Business students	3
Undergraduate students	4
Graduate students	4
Nationwide	5
Unknown	4

Table 4. CE number of students in target audience

ce1.1 How many students are in the target audience?	
1-1000	3
101-500	1
501-1,000	12
1,001-5,000	4
Greater the 5,000	2

Table 5. CE Types of students

ce1.2 What types of students are in the target audience?	
High school	1
Matriculation	5
Non-traditional	6
Undergraduate	7
Graduate	5
Working adults	8
Continuing Education	2

Note: Numbers represent DLPs the cater to more than one type of student

to the school, while others were accessing the college from remote locations around the nation. One DLP served business students in a different city, while the college served

traditional undergraduate studies on campus. About one-fifth of all the students in the CEDS were postgraduate or working professionals enhancing job skills. The diversity of the students presented a challenge for the PMs, who were trying to identify the demographics of population they were trying to teach.

The DSs were asked to give information on the student population that they were targeting. The data from questions in the civilian educators data segment (beginning above table 3, 4, and 5) and the Army plan manager data segment (beginning below tables 6, 7, and 8) provide basic student population characteristics. The data from the remaining student oriented questions reflected the DS's perceptions of the students and specifically answered why students took courses by DL and how they measured success in DL. The analysis provided insight on why PMs in both DSs thought students used DL over traditional education options.

The student populations of the CEDS and the APMDS were diverse and representative of the populations they were designed to target. The CEDS had many students in different stages of their education and in various levels of personal and professional maturity. The numbers of students enrolled in the DLPs ranged from fifty to over fifteen thousand, and included high school students to working professional. The CEDS had done a fairly good job of identifying the people in the target audience. Identifying the target audience was an important factor in OSD. The OS designed to facilitate the needs of a fifty-student DLP, may not be capable of providing the same level of service to a DLP designed to serve fifteen thousand. The data supported that many CEDS PMs had identified that correlation and had designed OSs to support the number of

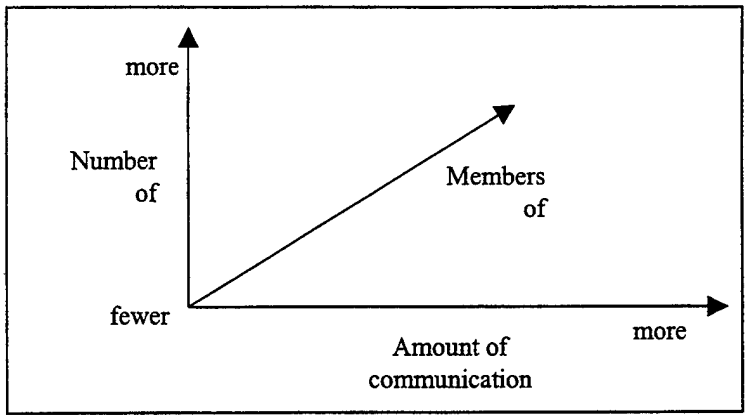


Figure 1. Student-OS-DLDP relationship

students in their DLP. The mediating factor for handling the different size student populations was the type of DL education services provided. The services of the DLP establish the limits on the number of students that a OS can effectively support.

A PM must have an idea of the numbers and types of students expected in the target audience to provide adequate coverage for the student needs. A way to meet the needs is to strike a balance between the size of an OS and the student population. There are a couple of ways to reach this balance and they depend on three factors: the DLP design, the number of students and the number of members in the OS. First, to meet the needs of a DLP that, by design, requires more instructor-student communication, a PM will have to have a large OS when there is a large target audience. Conversely, a small OS with a DLP that does not require much instructor-student communication can handle the same number of students (see figure 1). It is all a matter of a PM being aware of the OSD requirements, as the target population needs are determined. Simply, if a DLP has a large number of students and is designed to emphasize instructor-student communication,

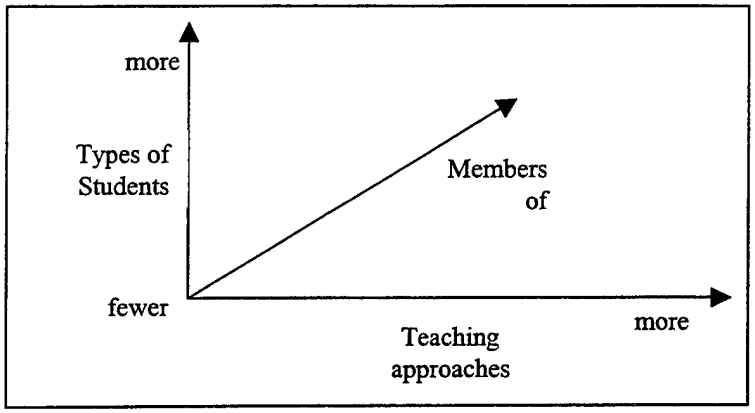


Figure 2. Student-OS-DLP correlation

a large OS is needed. And if a DLP has a large number of students and is designed to facilitate less instructor-student communication, the managing OS should be smaller.

In the CEDS the largest student population, of over fifteen thousand, had an OS of twenty-four people running a DLP that used online instruction and testing. While the smallest student population of fifty-six students, had an OS with faculty members assigned to each student and was designed to allow regularly communication by telephone and email. A similar correlation could be drawn to the number of different types of students a DLP will teach. When instruction is provided for high school students and college undergraduates, an OS can use the same teaching approach. However, in order to address the learning needs of a working professional wanting job enhancement skills, a different approach maybe taken all together. The OSD staff will have to consider the characteristics of the students as factors before implementing OSD.

The APMDS members may not have had OSs that adequately addressed the needs of the soldiers and civilians in its target audiences. Many student in the Army DL

population got assigned to training by Army Training Resources and Requirements System (ATRRS). At the time of the survey, many APM understood that ATRRS was the instrument that assigned the students to the DLP, but did not know how many students would be assigned to the DL classes. Designing an OS that had an unknown number of students was not designing for disaster, as much as it was designing poorly. An OS that has an undetermined number of students must to select a DLP with greater

Table 6. Army student demographics

ap1.0. What are demographics of the DL students?	
All ranks	9
Private to Sergeant Major	1
Staff Sergeant to Sergeant Major	1
Captain	2
DA civilians	2
Other	5

Table 7. Number of Army students

ap1.1. How many students are in the target audience?	
ATTRS driven	14
Unknown	4
2,400	1
30,000	1

Table 8. Types of Army students

ap1.2. What types of students are you going to educate / train?	
All Army	12
Military Occupational Specialty (MOS) Specific	6
Unknown	4

flexibility in delivering and managing instruction. The DLP has to be flexible enough to change if the student population increases or decreases. For instance, if three months from now the Army decided to send one hundred percent of the eligible officers to Command and General Staff Officer's Course (CGSOC) and the OS was designed to handle one-half that amount, potential problems could occur. The problems could be minimized if the level of work required by the OS is not significantly changed. If problems occur, they could be minimized by addressing one limiting factor. That factor is the shortage of key personnel in the pool of replacements if staff augmentation was required. By defining the number of students in advance during OSD, an APMs will find it easier to determine the number of personnel needed in the OS. An ATTRS driven student population is not totally unmanageable in a DLP, but PMs have will to weigh the design options to minimize the impact of any shifts in the student numbers.

When the APMDS was asked to define what was considered the student's measure of success, the major response was completion of the courseware. The second response was that soldiers wanted their job performance to be no different than that of other soldiers attending a resident course for the same material. A couple of the APMs did not know how to define success for student in their DLPs. Measuring success is a very difficult, because it is diversely defined. If success for a resident course is passing a test and all the students understand that going into the class, some students will be motivated to pass the test. However, all students do not possess the same level of motivation. It is the responsibility of the PM to recognize that there are many different

ways in which a soldier will measure success and consider that in DLPD.

Success is a characteristic that can be defined by the DLP or the user. When it is defined by the DLP and articulated to students, several gains are made. First, the OS is clear of its purpose and can provide guidance to the student before, during or after the DL term. Second, by defining success for the student the OS can design a DLP to complement its goals, even if the student's goals are not defined. Finally, the design of the DLP can have a broad measure of success, which would allow a larger number of students to succeed; even if those with students have ill-defined goals.

Table 9. Army students measure success

ap1.3. What is the measure of success for your distance learning student?	
Completion of courseware	10
Job performance	4
Passing test	4
Unknown	2

It was clear that APMs had a perception of how their students' measured success (see table 9). If their perceptions equaled reality, the APMs were likely to design a DLP with bias information. In either case, future APMs should understand what a student's success standards are before starting DLPD. It would be an exercise in futility to design and implement a DLP that never allowed the students to succeed. This is an area that requires future study and could be applicable in many areas of Army education.

Analysis of the CEDS on the same question yielded a range of similar responses. The data suggested the CEDS perceived that most students felt they would have been

successful if the instruction provided by the DLP advanced them in a current or future job (see table 10). It appeared the CEs had the perception that success for their students was in line with the goals of most traditional students who were attending college. It was not clear if they know the student's measure of success before OSD, or if this was the standard answer in the civilian DL field, as a results of numerous years of experience. What was clear was the CEDS understood and responded to the needs of the students. However, neither DS asked the students how they measured success. When defining

Table 10. CE Measures of success

ce1.3 What is the measure of success for your distance learning student?	
Job advancement	14
Completion	3
Enjoyment	1
Non-intrusive instruction	1
Other	1

success, PMs should not have the only voice and, nor should the students. However, it is up to the PM to ensure the OSD staff takes success factors into consideration when starting a DLP.

The last student area that PMs gave insight on was why they thought students enrolled in DLPs over traditional education. On this question the two DSs answers differed so greatly it suggested that for the APMs, the ADLP had not provided enough guidance on what DL would do for students as much as what the plan would do for the Army.

First, the CEDS gave flexibility of DL as the number one reason students took college courses by DL. Students enjoyed the freedom of attending classes when they wanted to and not being tied to a rigid schedule (see table 11). Job enhancement and receiving the practical education was offered by two of the surveyed members as the reasons student chose DL over a traditional education. The analysis suggests the CEDS understood why a student would want to use DL. Students taking DL wanted to be successful at a particular job and did not have the means to attend classes at the college.

Table 11. CE reasons for selecting DL

ce1.4 Why are the students using DL over other methods of education?	
Flexibility	14
Practical education	3
Job enhancement	2
Other	1

Table 12. Army student reasons for selecting DL

ap1.4. Why are the students using DL over other methods of education?	
Save Army training dollars	10
Directed by Army	5
Increase proficiency	4
Sustain skills	1

The APMDS's answers were more inline with the ADLP's guidance. Most of the APMs responded that students wanted to take courses by DL to save Army training dollars (see table 12). Ten APMs responded that saving training dollars was the reason

for choosing DL, while six responded that students wanted to take DL because the Army was switching to use this type of training method. This answer supported the reasons the Army wanted to train students by DL not necessarily why students selected DL. The survey required the PMs to make some presumptions about the student, and the true concerns of the student were not reflected in their answers. However, so APMs would not have to guess on the matter, it would be good to ask DL student why they are taking instruction by DL. The answers should reflect a need to better their abilities, enhance performance or remain competitive for a position or promotion. Saving Army training money was a consequence that all soldiers may indirectly benefit from, but it was a desire of the Army staff, not students. Students have real concerns about DL and in the immediate command climate, it was not clear that the needs of the students were being addressed.

As a group, APMs have to move beyond the guidance in the ADLP and address student concerns. It was not clear that the concerns of the Army students were getting through to the APMs. One solution was to ask the community of students how they want to receive instruction and incorporate those suggestions into the DLP. This would require a PM to conduct a measured amount of preliminary research, but the data from such a survey could assist in DLPD. Another possible solution was to approach DLPD from a student's perspective and provide the OS with student-centered solutions for DLPD.

A survey of that nature would stand to illustrate how students impacted DLPD and ultimately OSD. To properly conduct OSD, PMs have to consider the characteristic of the target population the plan is going to serve. The population of students provides a

focal point from which the plan should derive. By using the students needs as a design factor, the DLP is more likely to succeed in the transfer of knowledge.

Organizational Structure Relationships

The study analyzed how the CEDS related to its parent organization in the areas of OSD and DLPD. The data supported that most of the OSs started one to two levels down from the top of the college's hierarchy. The CEDS gave the PM the same positional power afforded to separate department deans. The PMs two levels down from

Table 13. Levels down from college president

ce2.0. What is the current organizational structure managing the DLP?	
One level down	10
Two levels down	8
Three levels down	1
Separate	1

the president were usually at the same level as department deans (see table 13). The level a DL OS appeared in the college's hierarchy was important because it minimized power struggles and clearly delineated duties and responsibilities. The OS used assets from all parts of the college and relationship were worked up simply by where the PM sat in the college's hierarchy.

Most OS had a director, assistant director and sub-element that were aligned to govern the DLP. Universities with plan that require greater instructor-student

communication had faculty as part of their OS. While others had faculty in an indirect role and used them only in the beginning and end of the school term or when student contact was required. The DLP droves the OS in most cases. For one PM, the board of regents had a greater amount of control over the DLP than the college, because all the schools in that system were tied into one DLP.

In the OS with indirect relationships the instructors and technologists provided subject matter expertise (see figures 3 and 4). The SMEs reported to their respective bosses and provided assistance to the OS when necessary. The requirements that PMs used for OSD were based upon those relationships between the OS and existing members of the college staff.

Figure 3. Relationship to parent organization PM equal to school dean

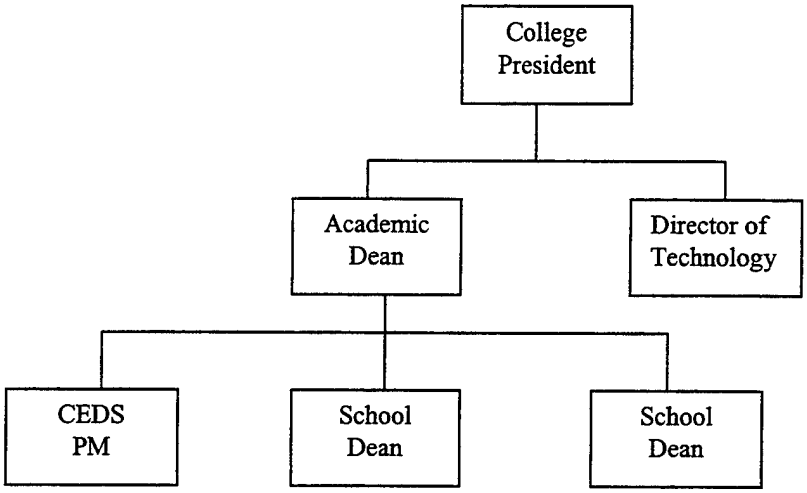
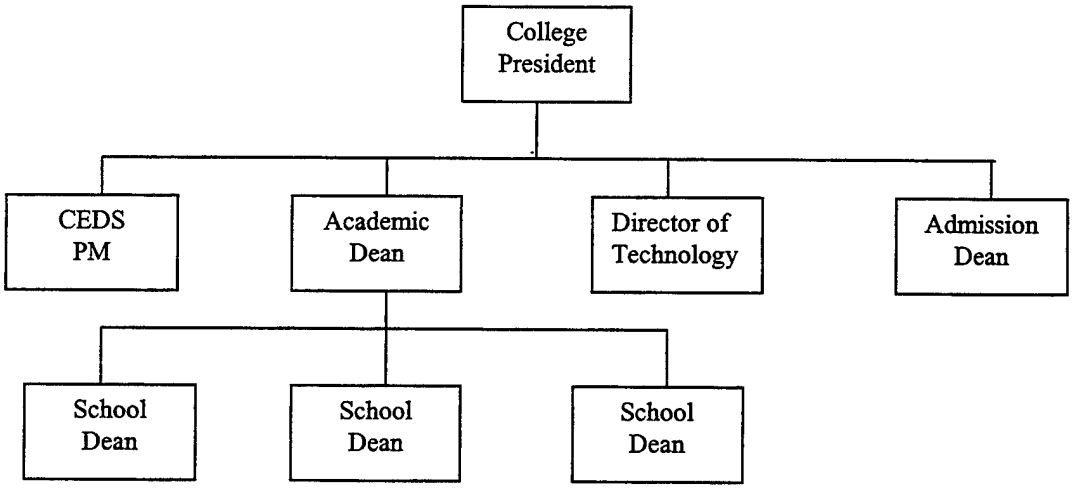


Figure 4. PM equal to academic dean



College administrative staff seemed to have an advisory role over the DLP in the CEDS. More PMs reported that their parent organization used a hands-off approach to managing the DLP for the college. The college directly influenced which course of study would be taught but did not influence day to day operations. In one instance, indirect support came from the parent organization in the form of tasking other departments to provide faculty assistance. One college's answer to instructor support was to hire purely DL faculty. The college trained the faculty in delivery media and all courses were planned for the distant student. Obviously, the college had a direct hand in determining which departments would benefit from that arrangement and directed the execution of this relationship.

Developing courseware was an important area of consideration that impacted OSD. Colleges were answering this challenge in different ways. The trend for the CEDS was to eventually have instructors develop their own courseware using whatever media they felt the most comfortable with using. At the time of the survey only two colleges had instructors actually developing ICW. Most used a combined approach to ICWD by using instructors for content and designers for implementing of the software (see table 14). The OSs that used faculty for ICWD were doing so because they wanted to take advantage of the faculty member's subject knowledge. One college hired prominent faculty members from around the nation to author products for their DLP. Another college outsourced ICWD and all parts of its DLPD. The only administrative requirement the OS had was to enroll students and administer to their needs. All materials came from an independent organization that sold undergraduate DL courses.

Table 14. Courseware development

ce3.0. How do course developers produce courseware?	
In-House Combined	10
In-House Developers	7
In-House Instructors	2
Outsource	1

For the remainder of the PMs, they stated that outsourcing was too expensive and would not provide them the flexibility they needed to run the DLP. It was more feasible to invest in training instructors in the skills necessary to facilitate DL than paying a contractor to manage ICWD.

Not all DLPs had a heavy technology based OS. To minimize the use of technology most DLPs in the survey used email as the delivery means. Faculty members use email to communicate with students, examine progress on written documents and share information as groups of students collaborated on assignments. Collaborative work among students lends itself well to listservers or other tools that could distribute work among large numbers of people.

Using email did not require large amounts of instructor training and was easily implemented. Email listservers would also require all the students to participate because the instructor could track the work and give feedback to the postings over the internet. Using HTML and proprietary software provided greater options for some of the colleges, but would require more training up front or employed a combined approach to ICWD. Once again, the respondents thought the trend was to continue to train instructors to

accomplish those tasks and allow the instructor to determine the delivery method best suited to the course outline and student need.

There were sixteen of the twenty PMs in the CEDS that had instructors as members of the OS. All of the sixteen PMs provided some type of instructor training to introduce their instructors to DL (see table 15). The instructor training was in one of three forms: introduction to DL media, team courseware development, or individual courseware development.

The introduction to DL media was designed to show instructors the different computer based DL media that could be used in support of the DLP. For most OSs this course was designed to bring instructors skills up to the novice level in HTML, email and proprietary software packages. Instructors normally received two to three days of training before they were released to develop their own classes using whatever media they wanted to use. There were at least four OSs that used non-computer-based distance learning delivery means and allowed their instructors to select one of them if the instructor did not like working with computers. The training was intended to provide the instructors with enough of an introduction to stimulate their interest, so the instructors would select a delivery media that suited their own teaching style. One PM expressed that allowing the instructors to select the delivery means they would use in DL proved to be successful.

Table 15. Instructor training

ce4.0. Do you provide instructor training to aid in the delivery of your distance learning courseware?	
Introduction to DL Delivery Media	10
Team courseware	4
Individual Development	2

The portion of the CEDS that trained instructors to be members of a development team approached instructor training in a different way. Instructors were trained in specific delivery media that augmented the DLP of the college. For development teams, instructor training lasted anywhere from four weeks to six months. This form of instructor training incorporated software design, media selection, and ICW staff planning. There was a greater emphasis on developing the instructor to work as team members with specific skills than training them in all areas of ICWD.

Training was different from OS to OS. One OS employed a teacher-teacher mentoring system that allowed the new instructor to gain experience in ICWD while using the assistance of a fellow faculty member. Another OS trained faculty members at the same time other OS members were trained. Designers, content staff, faculty and managers were all trained together. In this OS, the training centered on proprietary DL software the DLP was designed to use. The software training gave the faculty the skills to instruct their individual department members on courseware conversion. In this capacity, a trained faculty member would work as an OS liaison to other members of the department. Some participants worked as regular instructors during the training period and other were only taking the training courses to develop the ICWD skills.

The last style of training instructors received was in individual courseware development group. In this group, two colleges that trained instructors to plan, design, and implement IWC did so to allow the instructor greater freedom in courseware design. The programs were of varying length and did not restrict the form of DL media that the instructor was allowed to select, the class size or focus of the ICW. In these instances they had greater latitude to design ICW and the freedom to tailor selected programs as they saw necessary. Of the three training styles this was the least restrictive on the instructors. The instructor was given anywhere between 1.5 hours and 3 weeks to complete the train up. In one case, the PM allowed the instructor to tailor the length of the training to fit their needs. After the initial class of eight hours was taught, the instructor could elect to cease training and commence building software.

The participants in all cases felt their instructor training they conducted was not adequate and would like to have had more time to develop certain skills. They also stated that instructor training seemed difficult to do after the DLP started if it was not planned for in advance. Staffs must take into consideration how and when introductory, proficiency, and advanced training will take place. As new skills are needed the faculty member will have to develop them quicker to facilitate a seamless integration in the DLP. The OS should have a system in place to provide this type of additional training for the instructors.

All faculty members will not require additional training. Some will develop skills in media manipulation, software programming and ICWD because they enjoy it. However, for those who do not self-study ICWD, a method must be developed to ensure

the faculty was remaining a viable part of the OS. That viability is important for two reasons. First, the DLP will not be well received if the course authors do not appear to understand DLC design principles. Students will not receive the messages from the instructor if the deliver is poorly designed. Second, faculty members are an enormous asset and could lend a productive academic hand to the stability of the OS during ICWD. Plan managers should engage faculty as much as possible to ensure they are providing a substantially large portion of the information. The faculty members are the content experts and they have the foundation in the subject matter that PMs should exploit.

When asked how PMs assessed the effectiveness of their DLP two patterns emerged. The first method of assessment used was in-house. Faculty members, senior staff, and OS members conducted a regular assessment by surveying the students and the participating faculty members. The participating faculty members would receive a rating from the students on how well the DLP met their needs. After reviewing assessment results, all members of the OS had an equal voice in recommending changes. It appeared that the consistent goal was to make the DLP as successful as possible.

The second method for assessing DLP effectiveness was to allow an independent organization to monitor the OS and render a report. The monitoring organization would inspect all the systems and give the written report to the PM. The purpose for using an outside agency was to present an unbiased, detached assessment of the DLP. The information was then used to initiate changes that the DLP required.

All members of the CEDS felt that assessment of all the DLP systems was a smart thing to do. The assessment gave them the information from which decisions could be

made about possible changes to the plan. By assessing the DLP, PMs could identify the strengths and weaknesses of the OS as seen by an outside party. The information, if properly acted upon, could keep the DLP up-to-date with changes in the society and technology. The data suggested a common pitfall that PMs should avoid was reacting too severely to suggested changes. The assessments would provide input to the OS, but not all the inputs can or should be acted upon. By selecting the inputs that will assist the DLP and rejecting others, PMs can maintain a sense of balance in a constantly changing environment.

The only thing that was constant about the OSs of the CEDS was change. Twenty out of twenty responded that there had been changes to the OS since they started running the DLP. Organizational changes came in two forms. The first form was major overhauls in people and equipment. For instance, if a DLP that had been email driven adopted new software or decided to develop web-based products, major changes were warranted. Most of the OS included in this survey did not have great breath in the DL field. So if a delivery media changed, there was a fairly large realignment of people and equipment. Major overhauls also accounted for changes in the instruction provided. As instructors began to teach new classes, the OS would reorganize to meet the challenge of developing new courseware.

The second type of change normally occurs when a key personnel or specialized equipment was introduced to the OS. The introduction of the new people would warrant a shift of job responsibilities because they were hired to introduce functionality to the OS. New functionality was the number one reason personnel augmentations were made to the

OSs of the respondents. The data supported that change was constant in OSs that were being responsive to the student's needs. The surveyed PMs were working to please the audience and made changes that may not have been in line with the DLP. The DLP, once the model for OSD, was now not as important as building the correct capability in the OS. One of the requirements for OSD should be to design capabilities-based organizations that are flexible enough to meet the needs of multiple clients without having to redesign the OS. Since change is constant, OS should have the ability to manage change so it does not adversely effect the service to the customer. By identifying and placing key people in the OS, it should have the skills to manage change, and suffer fewer service interruptions. It should be clear that DLPs require unique solutions to the situation at hand. No two DLPs will operate the same and no two should have the same inputs, unless they both serve the same student population and train on the same courseware. PMs must consider the volatile nature of DLPs and project change accordingly during OSD.

The final CEDS question addressed the educational value DLC. When asked how the DLC was assessed, all twenty responded with some type of written or oral test. Student testing was the only assessment tool used to measure how effective the DL instruction was to the student. The validity of that assessment may have been questioned because high test scores did not necessarily equal high educational value. The measure of the DLC should take into consideration when knowledge is being transferred and how much of a knowledge transfer represents baseline education value. This is an area that

can not be adequately covered in this project, but should receive future attention by DLPD staffs.

Assistance from the ADLP

Most of the APMs in the APMDS did not think the ADLP assisted them with OSD and they were not certain it was supposed to assist them. There were two who

Table 16. ADLP assistance in OS

ap2.0. How much did the ADLP assist you in determining you organizational structure?	
Not much, needing help	12
Not much surpassed	4
Pretty well	2
Unknown	2

expressed that the ADLP did help them to establish an OS and thought the document was vital for the success of OSD (see table 16). The group that was not assisted by the ADLP could be further broken down into two areas: those who needed and those who did not need OSD assistance. Four PMs expressed that at the time the ADLP was published, their OSs were already in place and functioning. A distinction was drawn with this portion of the APMDS because the PMs said the ADLP was published too late to assist them with OSD. Moreover, they were not sure if a timelier publishing of the plan would have assisted them. At the time the guidance was provided, the PMs had already started OSD based on preliminary guidance they had received from coordination with TRADOC.

Subsequently, the PMs reviewed the ADLP to ensure their DLPs where in compliance, but did not use the document for OSD.

The second group who said the ADLP did not provide assistance for OSD were not simply trying to comply with guidance, but were trying to find some definitive guidance to follow. Twelve APMs said they did not get any guidance from the ADLP that assisted them in identifying requirements for OSD. They expressed that the ADLP was clear on equipping requirements, but not so for personnel requirements, management relationships and support structure relationships. This group responded that they needed more guidance, but the ADLP was not the document to give it to them.

Conversely, the minority of the responses came from two PMs who said that at the time they received the ADLP, it was instrumental in helping determine OSD requirements. Both PMs answered that the ADLP and the resulting guidance assisted them in understanding staffing requirements, courseware conversion issues, funding apportionment and management relationships with their parent organization. The ADLP had provided the PMs with enough information to initiate planning. As one PM stated, [the ADLP] "Gave us the right and left limits for developing a DLP." The data suggested that the ADLP was key for these PMs to conduct DLPD.

The data also suggested two commonalties between the PMs who were further along in OSD and those who used the ADLP for OSD. Both groups had one or two of the following attributes: key personnel with DL domain experience, DL focus from TRADOC or funding to start initiating DLPD. A conclusion can be drawn that these PMs would have experienced local DL success without the ADLP guidance, albeit

important. For this group, the guidance did not alter current planing nor was out of line with future plans. This group of six APMs understood the tasks required for DLPD enough to start OSD and used the ADLP as a tool refine their OS.

The Army's DL directors would of had to do a few things different to establish successful conditions for remainder of the APMDS. First, some effort would have to been made to get key personnel into the PM positions. Second, to meet the key personnel deficit, they would have had to provide training for the segment of the population that was not predisposed to have a successful DLP initiation. Third, efforts could have been made to establish OSD guidance that emphasized the type of skills a PM should have before OSD. More guidance from TRADOC may have given subordinate commands the list of prerequisite skill needed by a PM. The subordinate command could have then known what skills PMs needed or what type of additional training maybe required.

The APMDS had well-established relationships between the OSs. Twelve APMs answered that they had shared or received information from other APMs about DLPD. They represented all levels of experience in DL and appeared willing to assist one another. New APMs shared their issues with the more knowledgeable and experienced PMs to gain a better understanding of DLPD. There was a good deal of cross-fertilization of new concepts and emerging solutions in DLPD. Notably, most experienced APMs shared a solution that enhanced the formation of another OS.

The remainder of the APMDS did not remember sharing or receiving information from other PMs (see table 17). It was not clear from the data why this group did not communicate with other APMs. They missed an opportunity to gain valuable insight.

Table 17. Sharing information between OSs

ap3.0. How much assistance have you given to, or received from, other plan managers in establishing an organizational structure?	
Did share information	12
Did not information	6
Unknown	2

The data suggested that most of the APMs thought the cross-leveling of ideas was a good practice. By sharing experiences, APMs gauged their relative progress when compared to other APMs. This had a calming effect for some because they understood a few important factors about OSD: they were not alone, everyone had something to offer, and peer APM already achieved solutions to certain problems.

Managers that were on the same installation established a bond and worked in concert with one another. By sharing collaboration on courseware development they were able to reduce the load on their OSs. The data also supported that APMs that had not shared information were as far along in OSD, as those who had shared solutions with one another. Both groups progressed at the same rate, with one exception. The APMs that shared info were able to estimate future requirements and established a plan to handle milestones, which the other could not. Just by sharing information APMs became more aware of OSD requirements even if they did not have the means to act on the information.

Information sharing was an important activity for APMs to conduct. As part of any intermediate progress review (IPR) with the parent organization, APMs should make contact with an informal or if possible formalized peer OS. By cross-leveling information PMs assist the Army's DL consortium to become stronger. The ideas that are

generated by brainstorming could provide valuable solutions to problems that the entire community of DL professions can use. The community must make an effort to minimize the protecting of information from peer organizations and share the knowledge available in DLPD.

For the remaining four areas of analysis the APMDS can be broken down into two groups: the group who had a certain functionality or capability and the group who had not developed at the same rate. The difference was usually attributed to the amount of experience PMs possessed or the support their DLPs were given. The member of the APMDS were asked if they had received any additional training to prepare them OSD. Fifteen APMs said they had not received any additional training, while the remaining five had received training, but it as not for OSD. The training that was received was for multimedia software development and courseware design. The training targeted OS members not necessary the PM. The APMs that received training expressed that the training was helpful and provided expertise in an area that was lacking in their OS. In particular, one APM used the New Mexico State University Television Teaching Course to provide training to OS members. Two other APMs found the Army Training Support Center (ATSC) courses provided by the Army a good starting point for their training program.

All APMs responded that they would have liked to have received additional training prior to DLPD. The preponderance of responses focused on the training that would address tasks that members of the OS would accomplish such as ICWD, graphic

design, courseware conversion, and content management. No APM mentioned the need for PM training or training PMs to establish requirements for OSD.

The data supported that nine APMs received some type of assistance from their parent organization. The assistance came in two forms: training of OS members or providing coordination with other OSs (see table 18). Several APMs expressed the amount of support they received from TRADOC was outstanding. The APMs received targeted instruction on multimedia development, as well as, group-oriented instruction on

Table 18. Support from parent organizations

ap6.0. How is your parent organization supporting your organizational structure?	
Training	3
Coordination	6
Unknown	11

maximizing the use of SMEs for contractor driven ICWD. Another APM expressed how the parent organization identified training requirements for OS members and provided the funding to contract the instructors training.

Other APMs received coordination assistance from their parent. Coordination between like OSs was accomplished most often when the peer OSs had the same parent organization. TRADOC assisted its subordinate units by establishing working/coordinating relationships with PMs of OSs at different stages of development. In that instance TRADOC facilitated OSD by establishing peep-to-peer coordination to

address commonly experienced problems. The data also supported that, as a parent organization, TRADOC helped PMs establish statements of work to identify and address the needs of their OS. Experiences parent organizations were providing assistance and were well received by PMs.

Conversely, the APMs without knowledgeable parent organization did not receive as much assistance. One explanation was these OSs did not have TRADOC as their parent and request for information went unanswered by their parent. Another explanation was the OS had so little knowledge of the DLPD that the parent could not have provided enough information to meet deficit for the PM. In either case, eleven APMs did not think

Table 19. Number of years of experience

ap7.0. How many years of education or training experience is represented by the personnel in your organizational structure?	
Over two hundred	2
Two hundred to one hundred ninety-nine	2
Ninety-nine to fifty	6
Twenty-one to one	10

they had received OSD assistance from their parent organization.

The total number of years of experience in training and education an OSs had varied for a few reasons. Obviously, the more members that were in the OS, the higher the possible number of years of experience that organization could have had. Actually, the number of years of experience could be explained by another factor. Many OSs were staffed with retired soldiers that were instructors in the field they were now providing

DL. The four OSs that had an excess of one hundred total years of training experience were staffed with DL coordinators that were primarily instructors during the later part of their military careers. Other OSs were staffed with members that were associated with the training and development directorates in the school before becoming involved with DL.

While conducting OSD, the PMs took the number of years of experience a staff member had into consideration before including them in the organization. The number of years of training experience was used as a factor for OSD. The data supported that this group of APMs also had civilian technicians, technologists, and administrative members in the OSs with numerous years of experience in their disciplines. The same criteria were used in selecting support staff members before they were added to the OS.

The remaining APMs had staffs with fewer years of training or education experience in their OS. The data supported that the OS with fewer years of experience also had PMs with little or no experience in DL or a field that was transferable to DL. The PMs did not take advantage of the local talent, as did the other APMs. A conclusion could that inexperience PMs did not know which talents OS members needed, so the PMs did not attempt to fill those requirements. Equally, it was possible that PMs did not have the ability or the authorization to augment their OSs with the most experienced people and that would account for the lower number of years of experience in some OSs. Having experienced trainers, educators, and support staff would have made the OS more capable and made up for the inexperience of the PMs.

The organization structures that were developed by the APMDS were either very

robust, including several development options or very basic in design with lesser functionality (see table 20). The data supported that APMs did not develop large OS because the requirements for DLP management were minimal. The OSs were only required to take existing ICW and distribute it to the students, with no requirement to conduct ICWD or train instructor. Their only requirement was to facilitate instruction to the students. Several PMs reported that their DL coordinators only assigned duties were to respond inquiries from students or contractors about a particular course. The coordinators became the SMEs and provided liaison between the outside and the PM. Their OSs were designed to push standard ICW to students.

There were eight PMs that were still conducting OSD and were not sure what their final OS would look like. Their major stumbling block was the incomplete DLP.

Table 20. APMDS current organization structure

ap5.0. What your current organizational structure?	
Full function	4
Distributed	8
Conducting OSD	4

One PM did not think the OS would be any larger than three or four people because they did not have the skills to conduct in house conversion of courseware. Their solution was to outsource the ICWD requirement since there were no members that understood how to develop courseware. The PM saw outsourcing as a solution for OSD and used that requirement to minimize the number of OS members that were hired.

Four OSs in the APMDS had assumed responsibility for all aspects of DLPD and had OSs that facilitated the implementation of the plan. As noted earlier, three PMs were well underway and had well-established OSs. The last of the four members was not as well established, but was modeling the work the previous three OSs had accomplished. With key personnel that were trained in education technology, one OS had a curriculum developer director, eight Department of Army (DA) civilians, fourteen military members and four contractors on staff. The four contractors worked on-site directly for the director and were used to augment skill sets not found in other members of OS. The contractors handled graphic design, media implementation and video management. The four DA civilians were the mid-level managers that supervised contractors and military members. The military members worked as the content personnel providing the subject matter expertise in the course material.

This model was used by one of the other PMs to establish an OS. The model was not as important as the factors that went into establishing it. When analyzing how the PMs organized one can see that civilian were directing and managing the OS at the highest and mid levels of management, while military members provided the subject expertise. This model did two things for their DLP. First, it provided continuity for the OS by keeping experienced members as the DL development foundation. Second, by augmenting the organization with military members there would be an influx of new people with new ideas from the field . New personnel would rotate in, and provide a fresh perspective on the subject matters of the courseware. It was too early to speculate whether civilian and military developers would continue to share in design

responsibilities. However, the arrangement seemed to have worked well for all four of the OSs that used the model.

The OSs in this data segment with a certain characteristic or functionality could attribute their success to a couple of factors. Those factors supported that all Army PMs would eventually experience DL success if patience was exercised. When the factors were examined one conclusion was that OSs were successful because they had a combination of an experienced PMs and direct assistance from TRADOC. It was unclear which had happened first, but all the OSs that were functioning well had assistance from TRADOC. The OSs were either the first to receive funding, the first to get infrastructure assistance, the model for all schoolhouses, etc. However it was termed, the OS was clearly the DL main effort of TRADOC at the time of this survey. It was unclear if they were selected to conduct the initiate testing because the proposed institution had enough experience to fill the OS requirements or the institution developed a more capable OS from within after they were selected to establish the initial OS.

The reason all the APMs could assume their DLPs would be successful was the ADLP had identified the times their particular institution or MACOM would come into the DL spotlight by TRADOC. What PMs had to do was meet whatever milestones they could until they were the DL main effort and not be discouraged by any initial lack of progress. They had to exercise patience and the assistance that other PMs received, would come to them in some form from TRADOC.

The OSs will also begin to share the experience across the Army as DL becomes more pervasive. As OSs become the main effort they will get more focus and naturally

experienced PMs will be sought to manage the OSs. If an experienced PM was not found, a person with management skills would assume the role of the PM. The data suggested that not one PM that was the main focus of the DL push for TRADOC was failing. The OSs were doing well and a great portion of their success can be linked back to the assistance TRADOC was providing. Plan managers with DLPs that were not the focus, have take the time to research the lessons learned of other organizations so when the DL spotlight was on their OS, they would be prepared to execute their plan.

Both DSs were asked to answer a set of comparative questions. The results are detailed in Appendix B. The patterns of answers were almost evenly split. The data supports that the civilian educators and the Army PMs had different answers because the experiences to that point with DL were different. However, it would be smart for APMs to review some of the answers the CEDS provided to a few questions. Those questions dealt with measuring DLP successes, DLP objectives, and assessment of the effect of the DLC. The APMDS generally answered all three questions as if they were reading directly from their DLP or from the ADLP. It was not clear why that APMDS had developed their plans. Civilian educators had developed plans for different reasons and most of them were connected to the growth of the college. With that goal in mind, the CEDS members enhanced and developed their OSs to ensure prosperity of the academic institution. The Army had established a DLP for a particular reason that was not being echoed by the APMDS. What was being echoed was the APMs' goals were centered on the execution of the DLP and not the institution or the student. This inability to identify and connect to essence of the ADLP was shocking. It was evident that the APMs had not

established goals for their local DLPs that reflected the goals Army had for DL. The goals should have included a provision that discussed distributed learning to the student in any location at any time. Or at a minimum, recount the growth of the college's DLP and policy to serve a larger population of users. However, up to that point the DLPs had been the focus, and to some extent the goal of most APMs.

Addressing the Needs of CGSC.

To make this research applicable to the OSD needs of CGSC, the CGSCDS was surveyed. The survey of the CGSCDS confirmed initial assumptions that no OSD at the college level was being accomplished. The focus, at the time of this project, was the conversion of the CAS3 courseware for DL. The CGSCDS, particularly the CAS3 officer-in-charge (OIC) of courseware conversion, was engaged in the rudimentary tasks associated with the courseware conversion. Of these tasks, the digitization of all the courseware was the major project being undertaken and was progressing on track to meet the established milestones. The CAS3 OIC followed a pattern of progression experienced by numerous other APMs surveyed for this project and after examining the data from the CGSCDS, the effort were recognizable and results were expected.

The data did support the CAS3 OIC had completed a great deal of research and understood the needs of CAS3 conversion. The needs of CGSC could have been easily addressed by examining the experiences of the APMDS and the CEDS. The analysis of that data could have provided many of the answers for CGSC DL director in satisfying the requirements for OSD.

The DL challenge facing the OIC was typical. It did not appear extremely difficult when compared to what other PMs were going through with their DLPs. The OIC could accomplish a great deal but it was not too particularly important to find solutions beyond the control of the college. The data supports that the OIC had marginal DL buy-in and needed to develop stronger support within the college. On the surface, it appeared that everyone wanted the CAS3 conversion to succeed, but there was not a visible effort being directed to the task. What was being directed was akin to DL double talk. Generally, everyone that could assist the OIC did give approval to the ideas presented, and acknowledged the importance of CAS3's requirements. However, few people delivered any assistance that could help develop an OS. In a sense, DL double talk propelled the DL effort in the college for awhile and did not cease until the tasks became more manageable and the outlook for success became more focused.

As the requirements changed for CAS3's courseware conversion, so did the focus in the college. At the time of the survey, the DL focus shifted from the CAS3 conversion to establishing a OS that would address all the colleges needs. At the time, those needs could not be met by the organic faculty and assistance for DLPD was needed. There were a few individual efforts to automate education products and those did obtain local success. However, as a college the need was still greater and the DL director and staff were working to address that problem. At the time of this project no finalized recommendation for an OS had been approved.

The faculty and staff were working independently on DLC. Because of the individual work, there was little continuity between the designers. Each designer used

the media that suited the courseware and experience level. Some of the computer products were being developed by extremely talented instructor, that had been self-taught in ICWD. Individuals were also working to digitize their department's courseware. The digitization would provide a resource that would assist instructors in the Total Army School System (TASS) and DL students. The data supported that most of the people that were involved in the digitization process considered it to be busy work and could not understand how work was going to assist DL for the college. They did not see how their work was nested into the DL vision and how a digital version of their material would assist anyone other than their boss.

CHAPTER 5

THE CONCLUSION

The research on organizational structure development (OSD) provided a starting point for plan mangers (PMs) that were initiating distance learning plans (DLPs). The project addressed some of the startup issues associated with establishing a DLP. The plan once thought to be the most important aspect of distance learning (DL), assumed a secondary role to the people, equipment, and management relationships that provide functionality to the possible solutions to the DL problem. The planning solutions were remedies to a temporary state in the Army's DL progression. Plan managers had to look beyond temporary solutions and engage the problem from a position that would provide strategic near-term solutions. The analysis concluded that near-term solutions for DL would become obsolete if they did not have a long-term focus.

This project took into consideration a problem that existed at a particular moment in time. During the ten months while it was being conducted, the Army Distance Learning Plan (ADLP) evolved to the Total Army Distance Learning Plan (TADLP) and the Army's DL community, along with new acronyms and ideas, evolved to meet the old and new challenges of training and educating soldiers. This was just another example of the volatile nature of DL. The volatility was not entirely negative, but coupled with the absence of DL theory, made execution difficult for inexperienced PMs.

Regardless of the plan title, or the intended purpose of its guidance, it did not identify how PMs that did not have DL skills would receive the training to develop DLPs for the Army. It was highly possible that time would provide the answers to address why

the Army assumed risk by not providing PM training. In that case, PMs should have taken a patient and persistent approach to DL. There was an expectation that the Army's leadership would come realize that no great progress could be made in DL until the generation of PMs had grown to understand and maximize the new education technique.

The research determined that there were factors used to develop computer-based DL organization structures (OSs). Those factors and much of the OSD criteria were given as guidance by the assigning parent organization and derived from the PM's vision and scope for the OS. The proposed design of the DLP and how it facilitated learning was equally as important as determining OSD factors. Preliminary thinking by the planners established the structural foundations of the DL, and the boundaries for distance learning plan development (DLPD). The planning provided a point of departure that helped the PM refine the scope of the OS. The factors were found to be complementary to the strategic goals of the DLP, even though most PMs did not make the discovery of their importance until after the plans were written. Although most survey member could not identify their OSD factors, they could clearly delineate between the factors they used for DLPD and for OSD after they applied some critical thinking to the model.

The OSs of other college level computer-based distance learning programs were hierarchical in nature and were able to address the needs of a diverse student population. The purposes of their OSs were to enhance the prosperity of the parent organization and provide a quality educational alternative the traditional classroom. The OS's goals were reached by managing a successful DLP the addressed that needs of the students and the university. Civilian educators (CEs) used factors like the type of students, the needs of the students, the experience level of OS members, the goals of the parent organization,

and the design of the DLP to establish the criteria to conduct OSD. The CEs were selective in how they measured success and used assessment tools to ensure their plan remained viable over time.

The near-term computer-based training needs of CGSC were very simple to understand. They had to develop an OS that could assist in the conversion of the CAS3 courseware and would ultimately meet the greater needs of the college's DL requirements. The college developed a plan to employ military members who were attending the Command and General Staff Officer Course as a nucleus for the OS. Other plans had been made to identify key personnel to augment the OS, but no one had assumed the role of PM for the college at the end of this project. The college needed to determine the OS that would doctor its fractured DLPD efforts and provide the community of administrators, faculty, and staff the direction for the shift to DL.

The answer for CGSC was not to hastily establish an OS to meet the needs of this one project, but to develop the means to facilitate all of the college's DL needs. The OS had to complete the CAS3 conversion and also handle future changes in the DLP as required. Based on the research, the following recommendations were made to the director of DL for CGSC.

1. Build consensus at the highest levels in the college to promote active buy-in to DL.
2. Define OS requirements prior to developing a DLP by considering the following: (1) the type of student, (2) the best means to facilitates learning and (3) the exact knowledge to be transferred.
3. Establish a capability-based OS.

4. Make a study of peer OS and mirror its successes.

5. Define the objectives and goals of your DLP before DLPD.

6. Prepare for and exploit the opportunity when CGSC becomes TRADOC's DL focus.

7. Design a DLP within college's current capabilities to manage current needs; then expand the capabilities to meet new requirements.

8. Identify key and experienced personnel within the college and recruit them for OS.

9. Include instructors in the OS with ICWD responsibilities.

10. Develop multiple assessment tools and use the results to initiate changes to the DLP as necessary.

11. Establish a strategic approach to OSD.

The outcome of the survey had a lesser role in influencing the recommendations than did the analysis. The data revealed that most OSD was conducted to answer a narrow focus of DLPD. The analysis concluded that plan development was not the only activity of the OS and the PM's vision had to be broader. The CGSC DL director had to establish a foundation that would give the DLP a successful start and approach the task as a strategist, not a tactician. A basic approach to DLPD would have netted the college some initial gains, but would not have sustained DLP growth over a long-term.

Area for Future Study

Several areas for future study have been introduced throughout the analysis of this project. To complement this project future researchers should examine several other areas of study for the Army. The first area is to determine which Army organizations have a DL educational requirement versus those that require DL training. Second, the ability for the Army's culture to accept, without prejudice, the validity of a DL education over the way the Army traditionally educates its soldiers. Third, the time it will take for the Army to develop a DL consortium that will meet the goals of the TADLP and provide the education and training that is comparable to that experienced by civilian corporations and education institutions. And lastly, research that defines how the Army's plan to conduct DL will affect the readiness of a force that is becoming more dependent on high technology equipment while fighting on an non-traditional battlefields.

GLOSSARY

B

boss software - As defined by the researcher, boss software is a pacifier that demonstrates to a PM's supervisor that progress is being made in developing a DL product. The software has little to no educational value.

C

computer-based training - instruction that uses the personal computer as a training aid to conduct, assists, or complete a given lesson.

computer infrastructure - the hardware, networking and system support required to run a distance learning program.

D

distance education - interactive two-way communication between teacher and learner that are separated by geographical distance that includes assessment of the learning objective. The courseware uses a technology media to provide instruction. Has as its components distance teaching and distance learning.

distance learning - interactive two-way communication between teacher and learner that are separated by geographical distance. The courseware uses a technology media to provide instruction.

distance learning program - a sub-unit of a higher level institution whose educational activities include traditional classroom teaching and learning. Administers the plans, goals and instruction used to provide organized instruction for distance learning.

E

extemporaneous agents - unassigned tasks that factor into the success of a distance learning program. May give greater depth and breadth to an organizational structure if taken into consideration prior to initial establishment.

education technology - the design and implementation of course curriculum that take advantage to the enhancement of personal computer, networking, and the Internet.

F

funds apportionment - the allotting of money to establish and maintain a distance learning program.

K

key personnel - an individual with specialized skills, that when assigned to a specific job needing those special skills, offers a high degree of success for the distance learning program.

O

organizational structure - the management entity that operates the distance learning program. It includes the personnel, equipment, management relationships with peer, superior and subordinate organization, and financial management

P

plan manager - individual responsible for the supervising the organizational structure that manages the distance learning program.

T

technology-based distance learning - distance learning that by its design, takes advantage of the enhancements a personal computer, networking and the Internet offer to the instruction.

APPENDIX A

THE RESEARCH INSTRUMENT

What are the organizational structures of other computer-based distance learning programs?

Civilian educators

Student population
ce1.0 What are demographics of the DL students?
ce1.1 How many students are in the target audience?
ce1.2 What types of students are in the target audience?
ce1.3 Why are the students using DL over other methods of education?
ce1.4 What is the measure of success for your distance learning student?

Relationship with parent organization
ce2.0. What is the current organizational structure managing the DLP?
ce2.1. What is your parent organization's influence over your distance learning plan?

Relationship with course developers
ce3.0. How do course developers produce courseware?
ce3.1. What software are you using?
ce3.2. What is the procedure to develop distance learning courseware?

Requirement for training instructors
ce4.0. Do you provide instructor training to aid in the delivery of your distance learning courseware?

Assessment of DL program
ce5.0. How do you assess the effectiveness of your distance learning program?

Establishing, changing or adapting the OS
ce6.0. Have you made any changes to your organizational structure?

Assessment of instruction
ce7.0. How do instructors assess the educational value of the distance learning curriculum?

Army plan managers

Student population
ap1.0. What are demographics of the DL students?
ap1.1. How many students are in the target audience?
ap1.2. What types of students are you going to educate / train?
ap1.3. Why are the students using DL over other methods of education?
ap1.4. What is the measure of success for your distance learning student?

Use of the ADLP
ap2.0. How much did the ADLP assist you in determining you organizational structure?

Sharing knowledge with other PMs
ap3.0. How much assistance have you given to, or received from, other plan managers in establishing an organizational structure?

Domain knowledge in DL
ap4.0. Did you receive training in any aspect of establishing or running a distance learning plan?
ap4.1. If so, what training did you receive?
ap4.2 If not, what training would have been helpful?

OS course of actions taken/not taken
ap5.0. What your current organizational structure?

Support from parent organization
ap6.0. How is your parent organization supporting your organizational structure?

Educational domain knowledge
ap7.0. How many years of education or training experience is represented by the personnel in your organizational structure?

Impact of extemporaneous agents on DLP planning
ap8.0 Have your designed your organizational structure to meet a specific extemporaneous agent?

What are the computer-based training needs of the Command and General Staff College?

CGSC Staff

Student population
cs1.0. What are the demographics of the distance learning students?
cs1.1. How many students are you expected to provide distance learning courseware?

cs1.2. What types of students are you going to educate?
cs1.3. Why are the students using distance learning?
cs1.4. What is the measure of success for your distance learning student?

Assistance from DL knowledge base
cs2.0. Has the plan manager received training in distance learning? If so, what? If not, what would be helpful?
cs2.1. Where do you go if you need assistance in DL issues?
cs2.2. Based on your understanding of your requirements, what can you accomplish with your organic needs?

Current management structure
cs3.0. What is your organizational structure?
cs3.1. What other organizational structure changes have you made and why?
cs3.2. What positions do you currently have assigned and what are the responsibilities?
cs3.3. Where does the officer-in-charge fall into the parent organization's hierarchy?
cs3.4. Do you need to establish new positions meet your distance learning requirements? If any, based on what requirement?

Support from parent organization
cs4.0. Who is your parent unit?
cs4.1. What is the hierarchical relationship of you parent unit and to the college?
cs4.2. What support has your parent unit provided to meet your distance learning requirement?
cs4.3. What are the distance learning goals of you parent unit?
cs4.4. What is the management relationship to your parent unit?
cs4.5. How does your parent unit measure distance learning success?

Directed requirements
cs5.0. What are you specified distance learning tasks?
cs5.1. What tasks have you assumed beyond what were specified and why?
cs5.2. What are your major milestones?
cs5.3. Have you been able to meet your major milestone? If not why? If so, what enabled you to do so?
cs5.4. What milestones have you missed and why?
cs5.5. Can you meet your requirement? If not, why?

Tie-in to other local organization
cs6.0. Who from the local community can provide you with support to meet you distance learning requirements? What distance learning requirement will they meet?
cs6.1. Are the resources of local organizations available for you to use?
cs6.2. Is there anyone in the college meeting similar distance learning requirements? If so, have you collaborated?

Comparative Questions
(from the organization structure perspective)

Success

c1.0. What is the measure of success for your DLP?

Objectives

c2.0. What are the distance learning objectives?

Funding

c3.0. What is you financial budget and how is it apportioned?
c3.1. Who has approving authority on the way budget is spent?

Assessment

c4.0. How do you assess the effectiveness of the distance learning courseware?
c4.1. How do assess what the student has learned for the courseware?

APPENDIX B

RESEARCH DATA

Civilian Educators

ce1.0	
Business students	3
Undergraduate students	4
Graduate students	4
Nationwide	5
Unknown	4
ce1.1	
1-1000	3
101-500	1
501-1,000	12
1,001-5,000	4
Greater the 5,000	2
ce1.2	
High school	1
Matriculation	5
Non-traditional	6
Undergraduate	7
Graduate	5
Working adults	8
Continuing Education	2
ce1.3	
Job advancement	14
Completion	3
Enjoyment	1
Non-intrusive instruction	1
Other	1
ce1.4	
Flexibility	14
Practical education	3
Job enhancement	2
Other	1

ce2.0.	
One level down	10
Two levels down	8
Three levels down	1
Separate	1
ce3.0.	
In-House Combined	10
In-House Developers	7
In-House Instructors	2
Outsource	1
ce4.0.	
Introduction to DL Delivery Media	10
Team courseware	4
Individual Development	2

Army Plan Manager

ap1.0.	
All ranks	9
Private to Sergeant Major	1
Staff Sergeant to Sergeant Major	1
Captain	2
DA civilians	2
Other	5
ap1.1.	
ATTRS driven	14
Unknown	4
2,400	1
30,000	1
ap1.2.	
All Army	12
Military Occupational Specialty (MOS) Specific	6
Unknown	4
ap1.3.	
Completion of courseware	10
Job performance	4
Passing test	4
Unknown	2

ap1.4.

Save Army training dollars	10
Directed by Army	5
Increase proficiency	4
Sustain skills	1

ap2.0.

Not much, needing Help	12
Not much surpassed	4
Pretty well	2
Unknown	2

ap3.0.

Did share information	12
Did not information	6
Unknown	2

ap5.0

Full function	4
Distributed	8
Conducting OSD	4

ap6.0.

Training	3
Coordination	6
Unknown	11

ap7.0.

Over two hundred	2
Two hundred to one hundred ninety-nine	2
Ninety-nine to fifty	6
Twenty-one to one	10

CGSC

1.0 CAS3 mirror Army AOC grad AC/RC
A/C-R/C Senior major to LTC to train on course.
1.1 3,300 per activity 5,000 folks per year
1.2 AOC grad LT to CPT post college pre-masters
1.3 Have to resources, paper-less resource required

1.4 Creation of developmental action plans. Talks strength and weakness. Improvement from what developmental action plan to not his/her position.

2.0 One week of webmaster training limited hands-on, lecture taught at the college by a locale instructor. It was a school driven requirement. Good introduction but did not focus on needs of CAS^3. Helpful training! Learned HTML page editing. Need tailored instruction detail instruction. Standard software package. From media analysis to POI development. Guidance from DOT. Location specific.
2.1 Asking for assistance. Word of mouth. Look for people that have information.
2.2 No. Limited training, resources, and equipment. Lacking hardware, software, and phone connection.

3.0 One man. Currently an RC officer under Title 11. No TDA structure.
3.1 FA 53 CPT from Title 11, conducting discovery learning.
3.3 None by TDA. Assigned Ft Sill with duty at Fort Leavenworth. Rated by CAS^3 COL for distance learning and director of CAS^3.
3.4 Yes, one or two regular software programmers. System manager to run MCS/database requirements.

4.0 CGSC.
4.1 Coordinates with action officers of curriculum operation division
4.2 Minimal. Parent's parent owns resource and expertise.
4.3 Don't pursue student's in DL. Pursue instructors. Get rid of all paper for R/C staff group.
4.4 NA
4.5 Get paper products digitized and on web for R/C instructor. Make everything exportable.

5.0 Develop a CPT level PME Phase 4 by FY02. Become paperless.
5.1 Nothing.
5.2 Self imposed motivation to finish this conversion. Memorandum of Understanding to TRADOC. Next year R/C instruction on web by June. Orient towards TRADOC and the Total Army Training concept.
So teaching can start in Oct.
5.3 Web based courseware by June.
5.4 None.
5.5 No. Not enough education, or experience. No educational technology training.

6.0 Kansas University partnership; met with contact at TASC; non resident study; DOIM
6.1 Yes.
6.2 Yes. Some have localized expertise that will support DLP. Have not gotten to ATSC collaboration.

APPENDIX C

DISTANCE LEARNING SURVEY PARTICIPANTS

Army

School or major Army command	Location
Combined Arms Support Command	Fort Lee, Virginia
Safety Center	Fort. Rucker, Alabama
Aviation Center	Fort Rucker, Alabama
Chemical School	Fort Mc Clellan, Alabama
Ordnance & Missile Munitions Center	Red Stone Arsenal
Chaplain Center	Fort Jackson, South Carolina
OCAR	Pentagon, Washington, District of Columbia
Armor Center	Fort Knox, Kentucky
Field Artillery School	Fort Sill, Oklahoma
The Training and Doctrine Command	Fort Monroe, Virginia
Air Defense Artillery	Fort Bliss, Texas
Warrant Officer Career Center	Fort Rucker, Alabama
Transportation School	Fort Eustis, Virginia
National Guard Bureau	Washington, District of Columbia
Infantry School	Fort Benning, Georgia
The Command and General Staff College	Fort Leavenworth, Kansas
Military Police	Fort Mc Clellan, Alabama
Special Warfare Center	Fort Bragg, North Carolina
Signal Center	Fort Gordon, Georgia
Army Logistic and Material Command	Fort Lee, Virginia
Defense Language Institute	Fort Ord, California
AHS	Fort Sam Houston, Texas
U.S. Sergeant Major Academy	Fort Bliss, Texas
Two anonymous participants	

Civilian Educators

Acadia University
Auburn University
Baker College of Flint
Bellevue University
Boston University
Brigham Young University

Burlington County College
Caldwell College
Central Missouri State University
Clarkson College
Colorado State University
Dallas County Community College District System
Massachusetts Institute of Technology
Metropolitan Community College
Michigan State University
National University
New Hampshire College
New Jersey Institute of Technology
University of Massachusetts Boston
University of Missouri-Kansas City
University of Missouri-Columbia
University of Southern Colorado
Washington State University
Weber State University
University of Tennessee, Knoxville

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