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NAVY JOINT ACQUISITION PROGRAM MANAGERS: IS THEIR TRAINING ADEQUATE FOR THE JOB THEY ARE TASKED TO DO?

THESIS

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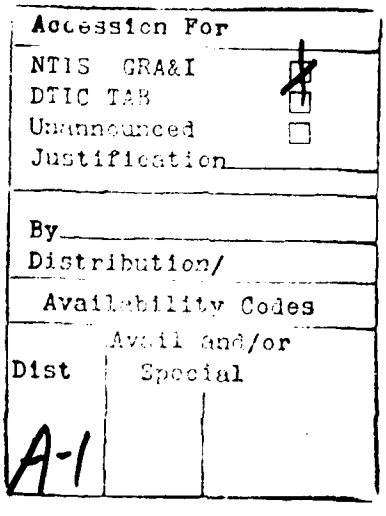

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Abstract

This study investigated the question of whether the training Navy joint program managers receive adequately prepares them for the unique problems associated with joint acquisition programs. Literature was reviewed to determine the common problems confronted by joint program managers. Then, personal interviews were conducted with Navy joint managers to determine their awareness of the problems associated with joint program management. The interviews were also used to investigate the training joint managers have received, and to explore areas where joint program management training might be improved. Many general and specific problems and issues were identified using qualitative and quantitative analyses.

The overall conclusion of this study is that Navy joint acquisition program managers are not being adequately prepared for the job they are tasked to do. Weaknesses were identified in the current joint acquisition training being provided, and Navy personnel management policies. Specific recommendations for Navy personnel managers and training institutions are provided.

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I. Introduction

Background

The Services have historically pursued individual development and acquisition of the systems and equipment required to meet their needs. In recent years, however, joint service acquisitions have been supported by many in Congress and elsewhere as a means to reduce acquisition costs by reducing duplication of effort and taking advantage of economies of scale. Over the past 15 years, joint service programs have become more prevalent as defense budgets have shrunk and acquisition costs have risen. A 1984 management study of joint service acquisition programs helped rationalize joint programs by recognizing the impact of recent emphasis on "joint warfighting." Coordinating development efforts helps the Services get the most capability from limited resources, and maximizes the potential inherent in joint warfighting. The study goes on to say that the key to joint warfighting is the interoperability of equipment procured by the Services, especially in Command, Control, Communications and Intelligence systems (13:1-5).

On the surface joint acquisition appears possible, but the past 20 years are littered with joint acquisition programs, like the joint Air Force-Navy TFX (F-111) program, that have failed at great

expense to the Defense Department and ultimately the public. Joint programs introduce unique problems and challenges to program managers, problems that are not present in single service acquisition programs. These problems have been studied at length over the past 10 years by government agencies and academic institutions. The importance of these studies to joint program managers was summed up by the 1984 Joint Program Group:

> If the Services are to be successful in the selection and execution of joint programs, it is imperative that they develop a thorough understanding of the unique problems that are associated with jointness and learn to cope effectively and efficiently with this changing environment. (13:1-5)

The Joint Program Group went on to say:

> By educating its personnel about the joint program enviroment . . . , the Services can improve the potential for success in joint programs. (13:6-1)

Solely responsible for their program's success or failure, single service program managers face many challenges. They are responsible for taking a program through the four phases of the acquisition process: concept exploration, demonstration and validation, full scale development, and production and deployment (17:1-14). They must quickly learn both the internal and external environments within which their program is operating. The internal environment includes the program office's structure, culture, and resources. The internal structure is the way the program office is organized in terms of communication, authority, and workflow. The internal culture is the pattern of expectations and values shared by office

members, while program office resources are those assets that enable the office to operate. The external environment consists of variables that are not within control of the program office, such as technological changes and congressional legislation (18:10,11). How to operate within the two environments involves learning the organizational and political system, where program funds come from and how they get allocated, and who program managers can go to for sound advice (5:2-1). Program managers must perform the numerous briefings required to support and defend their program. The final system must meet user performance and readiness requirements -- but at an affordable cost. The program manager must deal with the tough issues involved in making the necessary tradeoffs to balance these. Other responsibilities include planning for testing, initial training and spares support, and ensuring a smooth transition to the field (1:3).

Joint programs, while posing many of the management difficulties experienced by single service programs, also have unique problems created by their interservice nature. The internal and external environments become larger and more complex as the number of participants increase. Joint program managers must worry about the budgets of all participating services, funds which come and go as Service priorities change. The program manager now has multiple briefing requirements, where each service must be briefed according to its own rules. He must also deal with program office personnel whose loyalties may be divided between the program and their parent Service. These are a few of the reasons why the

"Joint Logistics Commander's Guide for the Management of Joint Service Programs" states that "joint programs require considerably more planning, coordinating and time consuming effort to accomplish then [sic] do single-service programs (12:13-1)." For this reason, and the continuing spotlight placed on weapons system acquisitions, the quality, acquisition experience, and education of joint program managers is more important than ever before.

Due to the visibility and obvious difficulties posed by joint programs, Congress recently specified the necessary experience and education senior acquisition managers will have before taking over major programs. But the training opportunities for joint program managers appears to be lacking. Currently, no Department of Defense (DOD) formal training course is designed specifically to educate current and prospective joint program managers on the unique and changing aspects of joint program management (11). Joint program managers now receive the same training as single service managers.

All DOD program management training is conducted at the Defense System Management College. The Program Manager course, required for all program managers (joint or single service), covers a wide variety of concepts, policies, and technical skills needed to manage a defense acquisition program (1:18). Joint programs are covered during a one-hour block of instruction during the 20-week course. The block provides a general overview of the rationale, requirements, and authority for joint programs (11). Responsibilities of the lead and participating Services are discussed, and the documentation, reporting, and program review procedures in single

service and joint service programs are briefly compared. During this hour students are acquainted with the "Joint Logistics Commander's Guide for the Management of Joint Service Programs," the most comprehensive guide available to joint program managers for handling their respective programs (10).

> The goal of the guide is to provide newly assigned managers of joint programs and their staffs with an understanding of the nature of joint programs, how they differ from single-service programs, and which aspects of program management demand greater emphasis than normally accorded single-service programs. (10:ii)

Training in the "lessons learned" from past programs can be worthwhile in alerting managers to potential pitfalls. Recommendations to avoid and/or overcome known difficulties in program execution can be invaluable to a joint program manager. "Timely and effective application of lessons learned has its greatest potential for dollar savings through the identification of potential problems and implementation of effective action to avoid deficiencies (16:19)."

Little research has been done on the training received by joint program managers. The goal of this research is to determine if the training they presently receive is adequate to prepare them for the dynamic, challenging programs they are asked to manage.

Specific Problem

Does the training Navy joint program managers receive help them deal with the problems they will face as joint program managers?

Investigative Questions:

1. What are the problems facing joint service acquisition programs?
2. Are Navy joint program managers aware of problems encountered on past joint programs?
3. Do current Navy program managers consider their training adequate?
4. What training have current Navy program managers received on joint acquisition programs?

Definition Of Terms

Joint Programs. Joint programs have been defined in many ways. These varying definitions have led different government agencies to draw conflicting conclusions about the number of successful "joint" ventures.

For example, in their 1983 study on joint programs, the General Accounting Office (GAO) chose to look only at jointly managed major system acquisitions, arguing that any joint ventures between services below the major system level (over one billion dollars to produce) were just "interservice collaborations." The GAO's second criterion for truly joint programs required early and continuing collaboration from the development through deployment stages. The study excluded cases where the services did not collaborate through

the entire acquisition process, as for example the Air Force purchase of the Navy's F-4 aircraft after it had already been developed (8:2,3). This study of 14 major system acquisitions led the GAO to conclude that there have been "no successful" joint programs (8:ii).

On the other hand, a 1983 study conducted by the Defense Sciences Board (DSB) for the Under Secretary of Defense for Research and Engineering, concluded that about "two-thirds" of all joint programs examined "were successes or had good prospects for success" (6:10). The DSB's definition, much broader than the one used by GAO, included less than major system programs, and programs that were made joint programs during any or all of the traditional program phases: "1) Concept Exploration (CE), 2) Demonstration and Validation (D&V), 3) Full Scale Development (FSD), and, 4) Production and Deployment (P&D)" (6:4).

The general definition of Joint Service Acquisition Programs adopted for this thesis is the one used by the Defense Science Board:

> Any defense system or technology program that substantially (formal coordination, direction, and/or funding) involves more than one DOD component during any or all of the four major phases of a system life-cycle in a planned and systematic fashion for the purpose of gaining one or more of the hoped for benefits in performance, cost, readiness, or operations. (6:5)

Joint programs encompass a wide range of structures, sizes, and objectives. Some work out of a single program office, while others include multiple program offices from different services. There is no standard or typical joint program office -- each one is structured to meet the individual needs and goals of the program at

hand. Program offices are organized and do business depending on the size, cost, importance, urgency, and visibility of the program (12:1-2).

Major Joint Programs. Major programs are defined by DOD Directive 5000.1 as those having $1 billion in total procurement cost or $200 million in R&D funding (13:G-2).

Lead Service. The lead service, often called the executive service, is defined as:

> The service that is designated to assume the authority and responsibility for managing the joint program by assigning a program manager, initiating the program charter, and acts as the principal coordinator of interservice relationships. (12:E-3)

The lead service underwrites the joint program office, provides most of the staffing support, and normally finances most of the programs development costs (8:24).

Participating Service. A "participating service" is defined as:

> An organization that supports the lead service in the development of a program by its contribution of personnel and/or funds for the successful completion of the program. (12:E-4)

Scope

Joint programs outside DOD, international joint programs, and programs between DOD and other agencies were not examined in this thesis. The research is also not an effort to identify joint program problems and difficulties; they have already been well documented in previous studies and are summarized in Chapter 2. This research focuses on the joint acquisition training current

program managers have received, the adequacy of that training in the minds of those managers, and ways to improve their training and development.

II. Literature Review

Introduction

Three major studies identify the problems normally encountered in managing joint acquisition programs. In 1983, at the request of the Chairman of the Senate Committee on Government Affairs, the General Accounting Office (GAO) conducted the first of these, Joint Major System Acquisition by the Military Services: An Elusive Strategy. As a result of the GAO report, the Under Secretary of Defense for Research and Engineering tasked the Defense Science Board to examine joint acquisition procedures and to recommend improvements. This study, titled Report of the Defense Science Board 1983 Summer Study on Joint Service Acquisition Programs, supplemented the third major study, Joint Program Study, initiated in 1984 by the Joint Logistics Commanders. This last study, a year-long tri-service effort, provided substantial quantitative data on many aspects of the joint program acquisition process (2:3).

These joint program management studies identify the problems faced, and therefore the training required, by a joint program manager. A key element in any joint training program should be to point out the causes of joint program problems, and to suggest ways to avoid them. This training will help a program manager better prepare himself to deal with potential problems, and maybe prevent them.

There is little information available in the current literature on joint program training. Actually, what information is available is

fragmented and does not specifically address the question of whether the training Navy joint program managers receive is adequate.

The following review first summarizes the problems commonly encountered in joint acquisition programs, and concludes with a summary of the relevant literature pertaining to joint acquisition training.

Joint Acquisition Program Problems

The problems identified in this literature review can be broken down into three categories: those that occur in the program selection phase, those that occur in the program initiation phase, and those that occur during program execution. The selection phase is that portion of the process when programs are considered for establishment as joint programs. The program initiation phase includes the establishment and staffing of the program office. The last phase, execution, involves the day-to-day management of joint programs (13:6-2).

Selection Phase. Depending on when he arrives on the job, a program manager may or may not become involved in the problems that can occur in the selection phase. But problems that sometimes occur in the selection phase can affect program management efforts significantly. An understanding of the problems that are possible in the selection phase can keep the program manager from spinning his wheels later in the program.

Service Reluctance to Participate. The Joint Program Study (JPS) group examined 80 joint programs and found that 62%

of them were initiated by sources external to the Services, such as the Office of the Secretary of Defense, suggesting that the Services have not been seizing the initiative in identifying joint program opportunities (13:3-2). This study found that the Services have been particularly reluctant to initiate joint programs when serious disagreements exist among the Services about system requirements. The JPS study found that "there exists a clear pattern of OSD and congressional boldness and Service reluctance in approaching the more difficult joint opportunities (13:3-5)."

Once the Services have agreed or have been tasked to begin a joint venture, the GAO found that the number one problem in the selection phase is getting the Services to agree on joint requirements because the Services have "different perceptions of requirements, doctrines, and operational features" (8:10). The final design is also affected by "different organization arrangements, standards, data requirements, manuals, provisioning, integration of military specifications and standards, occupational skills, training methods, test requirements, and so forth, . . ." (8:16). The Services' inflexible positions on desired system features are a major stumbling block. Long negotiations are conducted on the priority of each Service's requirements, often a difficult, and even impossible task (8:15).

> Some requirements may be omitted, held in reserve, or will evolve later on. Others, however, are so irreconcilable that they may be dropped from the discussion, to surface later and set back acquisition plans and interservice agreement. (8:15)

A program manager should be made aware of this potential problem. If all requirements issues are not resolved early on, the program manager will have to try to resolve them later. This can place the program schedule in jeopardy, or worse, force one or more Services to drop out of the program. The GAO study cited a case where Navy/Air Force negotiations for a common bomb rack overlooked the rack's suitability for supersonic aircraft. Due to the initial oversight, a prototype rack 4 years later exhibited serious shortcomings. The Navy dropped out of the program to develop its own rack (8:15). Difficulties in getting the Services to collaborate on joint ventures, and to agree on joint requirements, is a direct result of a number of institutional characteristics that exist within the Office of the Secretary of Defense (OSD) and the Services. These characteristics are discussed below.

Ad Hoc Selection Process. No structured process exists within the OSD and the Services to identify joint program candidates. The process could generally be described as ad hoc, with the creation of joint programs generally resulting from the individual initiative of an influential decisionmaker (13:3-6; 6:11). Each Service has a well-defined process for reviewing operational requirements and translating these requirements into new programs. Each Service generally analyses these requirements independently even though many of their missions overlap (8:10). The review processes allegedly provide for cross-Service review to permit identification of mutual needs.

The JPS, however, found little cross-Service feedback. There is no system in place to track the responses of the other Services, and there is also no system to insure that each Service responds to requirements documents received from other Services. The requirements review process for each individual Service can proceed with no one making sure that joint development possibilities do not exist (13:3-7; 8:10). The three major studies found that the current selection process has resulted in the initiation of a number of joint programs without analysis or resolution of potential problems. These problems carried over from the selection phase cause major difficulties downstream in a program during the initiation and execution phases (6:11; 8:12; 13:3-14). The DSB concluded that virtually all instances of joint program failures resulted from a lack of attention to the front-end work necessary to establish a firm program foundation. Either the prospective Services were not consulted on common requirements, or the relative priorities of the program participants were so different that future funding problems were inescapable. The problems occurred in most cases because the "marriage was forced" downward from OSD or Congress (6:11). If a program manager knows of the past difficulties caused by the ad hoc selection process, he can examine and confront the potential problems early on in the program and avoid wasting time and money.

Interservice Differences. "Each Service, with its finely drawn doctrine, unique capabilities, and particular operating-technical requirements, believes strongly that its choice of technology, aircraft, missile, or vehicle will be best for the mission

and the country (8:7)." Each Service's weapons requirements are shaped by the doctrine that governs its tactics, methods, training, operations, and integration of forces and equipment. These doctrines are shaped by the traditions, battle legacies, analysis, training, and top echelon policies developed and excercised over a Service's history (8:7,8). This historical behavior often results in the Services taking rigid positions on the system features they require.

On top of the doctrinal disagreements, there are also objective differences in the Services' technical-operating requirements that may be impractical or impossible to accommodate. Features vitally important to one Service may be of little use to another (8:8).

The GAO also found a motivational conflict. It is the "successful individualized weapon system that enables a Service to stand out, demonstrate professional competence, and symbolize military excellence that may enhance budget claims (8:9)." A joint acquisition blends Service missions, system concepts, and dilutes Service control of its resources. The Services are wary of any commonality of systems that may give the perception that "anyone" can perform their mission. These perceptions create little "psychic reward" for collaborating in a joint program (8:9). The DSB found that often the Services are only willing to try new technologies if they don't "do-in" their own programs already under development If the new device or system is imposed upon a reluctant Service, the probability of eventual deployment is low (6:25,26).

In many cases the institutionalized nature of the problems in the selection phase makes them impossible to avoid. But the

problems can greatly impact the initiation and execution phases of the program if they are not resolved. Formal training in potential selection phase problems, and ways to resolve them, will allow the joint program manager to address the problems early and avoid carrying them over into the next two phases.

Initiation Phase. Problems in the initiation phase center around organizing the management structure, manning the program office, and negotiating and establishing agreements between Services on how the program will be conducted. The joint program manager must deal with the problems identified below. A program manager properly trained in the problems he may face during this phase, and ways to deal with those problems, will be better prepared to run an efficient program.

Program Office Staffing. The GAO found that those Services reluctant to become part of the joint venture may assign too few people, or they may assign personnel who are not versed in critical technology areas, who are parochial in outlook, or who may be too low in grade for effective participation. The JPS agrees, pointing out that the lead Service manning level for major program offices averaged 87 percent of that authorized, while the participating Services manning was only at 45 to 60 percent of authorized levels (13:4-5). The manning problems led 67 percent of the program managers interviewed by the JPS to say that their organization could not effectively manage their problems (13:4-10). Adding to the manning problems, the GAO also found that representatives have divided loyalties -- to their Service affiliation

and to the joint program. The GAO concluded that all program participants are there first and foremost to protect their Service's interests, especially because promotions and reassignments are done by the parent Service (8:25)."

Service Agreements. After the Secretary of Defense approves a new joint program, the Services involved negotiate the specific roles, responsibilities, and funding support to be provided by each participant. These negotiations usually lead to one or more Memorandum of Agreement (MOA) between the participating and lead Services. "A well developed MOA is highly essential to the success of any joint program (12:2-7)." There is no typical format for an MOA. It may be long, covering all of the ground rules for the program, or it may be very brief covering only key areas of agreement. A program will often have several MOAs, each covering a specific topic.

Additional negotiations between the Services should lead to the development of the Joint Program Manager's Charter, the foundation for a joint program. The joint program charter formally delineates the program manager's mission responsibility, authority and major functions, and describes his relationships with the other Services and organizations that will support the program (12:2-7). Informal agreements, either verbal or written, are made between Services on various program issues. The agreements negotiated by the program manager and his headquarters in a Memorandum of Agreement (MOA) and/or charter are the key to resolving disputes between the Services. Obviously, the nature of an informal

agreement makes it more difficult to use in resolving a dispute. The JPS study found that only one-third of major joint programs had a jointly approved charter, while 84 percent had a Memorandum of Agreement between the lead and participating Services. However, only 53 percent of the MOAs were negotiated at the Service Headquarters or higher, "which is where many of the prime ingredients of a successful joint program such as requirements or funding are controlled" (13:4-5). In non-major programs, 48 percent had no jointly approved documents of any kind specifying program management responsibilities.

The JSB noted that cost sharing agreements are also an important part of the family of agreements that define Service commitments to a joint program. While most of the major programs studied by the JPS had some sort of cost sharing agreement, two-thirds of them were informal agreements (13:4-13).

Program Merger Timing. The timing of system program mergers is often out of step. Congress or OSD will force a Service to join a program already underway for months or even years, sometimes after the "lead" design is all locked up.

> The farther into development a system concept is, the greater its momentum and the stronger the sponsoring service's opposition to compromise. Fundamental decisions have been firmed, investments are sunk, a dedicated constituency has formed, and contracts are often in place when many mergers are mandated. The follower service or services directed to join up at this stage have very little leverage. Merging such "out of step" programs may sometimes increase rather than save acquisition cost. (8:13)

Also, waiting on one Service to catch up can hold back the mature program. To catch up, the joining Service must assign program management personnel, negotiate a joint program charter with the lead agency, obtain funding, and attempt to integrate their requirements with those of the lead Service. Many joint program failures have been as a result of belated mergers (8:13,15).

Execution Phase. The problems encountered in the execution phase are due primarily to a broad range of differing Service business practices and decision making processes. Poor program planning and implementation in the selection and initiation phases often result in execution phase problems. Training in execution phase problems can pay great dividends to a program manager and his program. If a program manager is aware of the Services' different business practices and decision making processes, and is forewarned about the problems that can fall out of the selection and initiation phases, he will be prepared to deal with these events as they occur. The program manager has full control and responsibility for his program, and is the only one in a position to handle execution phase problems.

Service Withdrawals. One or more Service withdrew from approximately 13% of the 80 joint programs examined by the JPS. The withdrawals were especially prevalent among programs originated by the Office of the Secretary of Defense or other sources external to the Services. The most common reasons for withdrawal were technical requirements differences (60 percent), a combination of technical requirements and cost problems (20 percent), and low

priorities on the part of the participating Services (20 percent). The JPS stated that all of the problems might have been identified and resolved in a more thorough, structured selection process (13:3-14 to 3-16).

Cost and Schedule Growth. The JPS compared joint program schedule growth rates to single program schedule growth rates and found that in all cases the joint program growth rates were significantly higher than single Service growth rates. They also found a higher rate of R&D schedule slippage in joint programs, and a 6 percent per year production cost growth rate in major joint programs as compared to a 3 percent per year rate in single Service programs. The benefits of joint programs can be easily lost with these cost and schedule growth rates (13:3-16 to 3-20).

The causes of cost and schedule growth problems were narrowed to two primary factors: program funding turbulence and technical requirements resolution problems. Funding turbulence can be caused by Congressionally changed budgets, or changing Service priorities that cause a Service to reduce program support. According to the JPS, when one of these problems is present, it is likely that the other is also present. The JPS found that "funding turbulence increases as technical requirements similarity decreases (13:3-22)." They used statistical correlation analysis to show that funding turbulence and technical requirements resolution problems were consistently more severe in those programs experiencing high cost and schedule growth rates. (13:3-23).

Decision Making Processes. Two of the major difficulties encountered by joint programs noted earlier are funding instability and requirements resolution problems. These problems are caused by the involvement of more than one Service in preparing the program budget and determining the requirements. Changes in program resources and requirements are subject to the fate of not just one Service decision process, but two or more. But the JPS also noted that "changes by one Service are often made independently of changes made by other participating Services, despite the fact that the costs of each Service are mutually interdependent (13:5-2)." When one Service unilaterally changes requirements, or the resources it is providing, confusion is created in the budgeting process, and major increases are incurred in total program costs. All three studies argue that these changes are prevalent because no penalties or disincentives are in place to discourage them (13:5-2; 11:17). This absence "compounds the difficulties of budget formulation by contributing to program cost growth (13:5-2)."

The primary management functions of meeting cost, performance, support and schedule goals are complicated by the different business practices employed by the Services. The studies found that most often joint programs are initiated with little or no thought to how different Service business practices may hinder program execution. The most significant differences are described below.

Military/Civilian Roles and Personnel Policies. One of the primary joint program problems is adequate staffing from each of

the Services. Each Service has different career patterns for military acquisition personnel. The Army and Navy do not have large numbers of experienced acquisition managers because these Services generally do not assign officers to acquisition management positions until they have reached a grade of O-4. Thus supply rarely meets demand and civilians end up staffing these Services' military billets. Experienced civil servants are often reluctant to make the physical move to fill vacant military billets. Program managers often complained during JPS interviews that the participating Services did not staff their billets with enough people of the correct discipline. The JPS group found three reasons why the billets aren't fully staffed. First, the Navy uses a matrix organization structure in its program offices. Secondly, the Navy staffs single Service and joint service program offices with fewer officers than does the Air Force. Third, experienced acquisition managers are always in short supply, and single Service program needs normally take priority over joint programs in which the Service has participant roles (13:5-6,7).

The net effect is a shortage of people from the participating Services. As programs decrease in importance to a Service, the personnel problems worsen. Without competent personnel from the participating Services, managing the day to day interface between the Services can become one of the program manager's most significant problems (13:5-6,7). Simple coordination on program documentation and requirements become a time consuming task.

Management Practices and Organizations. Each Service in a joint program has a different chain-of-command, organizational

structure, and management practices. The Air Force even brings two organizations into a program, AFSC and AFLC. Joint program personnel from the other Services must at some point in the program deal with both Air Force organizations and must, therefore, learn the procedures of both (13:5-7).

The review and approval chain of each Service varies. Because the Services usually do not want joint reviews, program office personnel must support the time-consuming process of meeting the needs of all review chains (13:5-8).

Army and Air Force programs do not rely on a functional matrix organization as much as the Navy. The JPS noted that while matrix management is not unworkable, it can create chaos when combined with the understaffing problems discussed earlier. In a matrix organization, the program manager can have a difficult time running the program if a participating Service representative is not present to provide the proper interface. The program manager must find ways to deal with the functional matrix of the other Service to obtain funds, coordinate logistics problems, and answer required suspenses (13:5-9).

Geographic dispersion is another problem. Navy projects are managed out of Washington DC, while the other Services have program offices all over the United States. The Navy has developed internal procedures and communication links to tie it's program offices to headquarters. Navy headquarters personnel do not know how to manage staffs at joint programs offices outside of Washington. One reason for the management difficulties is that

Navy engineering support will be located elsewhere due to the Navy's matrix organization, while the lead Service's support is co-located (13:5-10)

Financial Management. Although the lead Service binds itself to the funding arrangements in the program manager's charter or interservice Memorandum of Agreement, the other Services need not. Funds for the program are held in each Service's coffers subject to that Service's control. The program manager does not control the funds. The program manager must often fight to get OSD-mandated or jointly-agreed funds released for use. Once he obtains the funds, he must accommodate the Services' different accounting and reporting procedures. Delays in receiving funds can delay contract executions or raise costs. The funding constraints can also reduce the flexibility necessary to run a smooth program (13:5-13).

Programs are funded in a variety of ways, all of which work reasonably well if the Services honor their original commitments. Problems arise when changing priorities, or overall budget reductions cause one Service to decrease its support or pull out altogether. Major problems occur when one Service reduces its funding or is unwilling to fund its share of an overrun -- which happens frequently as the Services adjust their budgets in reaction to new priorities, overruns, and budget cuts imposed by higher authority. In addition, participating services are expected to pay for the development of their unique requirements. Whether a requirement is unique or not often creates heated debate (8:26). Unilateral funding reductions cause a lot of program perturbations and ill-will

between Service participants, and complete withdrawals can lead to fiscal disaster for the remaining partners (6:28).

The GAO suggested that a Service be penalized for withdrawing from a joint program. One of the control mechanisms proposed would take the funds which the withdrawing Service budgeted, and transfer them to the remaining partners (6:28).

The GAO concluded:

> Funding uncertainties and requirements conflicts are the program manager's biggest headaches. The single-service program manager has only one service budget to worry about. The joint-service manager must cope with the vicissitudes of several budgets. (8:26)

The Services may also use different appropriation accounts to fund the same type of item. "Procurement data, for example, is bought by the Army with RDT&E funds, but with production funds by the Air Force (13:5-13)." Resolving these problems requires people, time, and money, all of which do not add value to the final product (13:5-13).

Logistics Planning. Service practices differ most in the area of logistics, often because of the Services' different views on how to organize maintenance activities.

> The Army recognizes four levels of maintenance (except for airplanes); the Navy and Air Force have three and the depth of maintenance performed at the various levels is inconsistent. Tasks classified as organizational by one Service may be intermediate to another, and these differences may require different technical orders and technical manuals and support equipment for each. (13:5-14)

Also, each Service has its own automated supply system. Maintenance and other coding data for the same item often vary. Requisitions from one Service system to another must often be processed manually (13:5-15).

Integrated logistics support elements such as data, publications, test equipment, and training can also differ in costly ways.

> Documentation and specification requirements are inconsistent and difficult to resolve. Each service prefers its own [documentation and specifications]:
>
> - Spares are not normally procured jointly.
> - Training requirements are different.
> - Hardware schedules are not easily coordinated.
> - Each service has its own set of standard hardware.
> - Test equipment requirements can be radically different.
> - Proposed change by one service is often not coordinated with other service. (6:35)

For this reason the Services order spare parts separately under different contracts, with each order being smaller and unit costs probably higher than if the orders had been combined. The Services might even compete for a contractor's manufacturing capabilities (6:35).

The DSB also commented on the impact specifications and standards have on production costs, as the production line is partly governed by the specifications and standards imposed by the customer. If a producer must implement standards set by two or more Services, he must spend additional money which is passed along to the joint program (6:37).

The JPS commented that logisticians from all Services are seldom brought together early enough in a program to do the "detailed, coordinated planning that can maximize commonality, minimize interface problems and achieve a first-order reduction in system life cycle cost (13:5-15).

Joint Acquisition Training

As mentioned earlier there is little research on the training received by joint program managers. Cox and Wile (4), interviewing Air Force and Army joint acquisition personnel, concluded that lack of training for multi-service programs is a major problem. They found that training shortfalls were more serious in the Air Force than in the Army, mainly because the Army sent more personnel to DSMC. The Army also provides multi-service acquisition training in a project management development course at the Army Logistics Management Center (ALMAC). Nonetheless, Cox and Wile concluded that training should be increased across the board (4:110,111). They recommend training in many of the areas identified earlier in this literature review as potential problems in joint programs. Their recommendations included training in such areas as:

- the different basic philosophies and procedures of the other services,

- the differences in terminology and organizational structures between services.

The authors did not believe that it would be economically feasible to set up a specific joint program training course. They

recommended that joint program training be incorporated into existing PCE curricula (4:132:133).

JPS Study. A portion of the 1984 JPS study compared the experience, education, and training of joint program personnel with single service program personnel, but stopped short of addressing the adequacy and applicability of the training given these managers. Data for the study was collected by questionnaires and from official records of both single and joint program personnel (15:E-3). The JPS study found no significant differences in acquisition experience or education and training between single Service program office personnel and joint program office personnel (15:E-17).

Conclusion

This chapter outlines the recognized problems encountered in joint acquisition programs. The problems identified in this review should be routinely taught to prospective joint managers to prepare them for their demanding assignments.

The few studies on joint acquisition management or training suggest a need for further research in this area. Clearly, a considerable amount of time and effort has gone into identifying joint acquisition management problems; little effort, on the other hand, has gone into communicating these problems to current and prospective joint managers. Little research has been conducted on the applicability of the training joint program managers are receiving. Whether or not joint managers consider their training adequate for the job they are tasked to do could not be determined from the body of knowledge reviewed. Therefore, by examining how

Navy joint program managers perceive the training they have received, and determining where they think it may be improved, this research should help identify the specific needs of Navy joint managers.

III. Methodology

Introduction

To answer the investigative questions posed in chapter one I divided my research into two phases. First, a literature review identified past problems in joint service acquisition programs. That information was then used to structure interviews with Navy joint program managers which constitute phase two: the manager's perceptions and observations of joint program training. The information gained from the interviews was then analyzed for conclusions about the effectiveness of current joint program training.

Phase One

Phase one began with an extensive DTIC search using the search terms shown in Appendix C. This search turned up only limited information on joint service training. Among the sources addressing the problems encountered on past and current joint service programs, there were three major studies that, combined, provided a comprehensive examination of the common problems faced by joint program managers. The General Accounting Office (GAO) conducted the first study, Joint Major System Acquisition by the Military Services: An Elusive Strategy. As a result of the GAO report, the Under Secretary of Defense for Research and Engineering tasked the Defense Science Board to examine joint acquisition procedures and to recommend improvements. This study, titled Report of the Defense Science Board 1983 Summer Study on Joint Service Acquisition Programs, supplemented the third major study,

Joint Program Study, initiated in 1984 by the Joint Logistics Commanders. This last study provided substantial quantitative data on many aspects of the joint program acquisition process (2:3). The problems identified in the three studies are outlined in Chapter two.

Phase Two

In phase two a structured interview was administered to 18 Navy joint program managers to answer the following investigative questions:

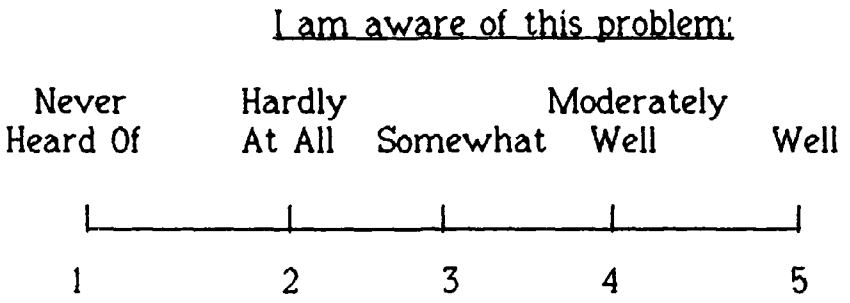
1. Are Navy joint program managers aware of problems encountered on past joint programs?
2. Do current Navy program managers consider their training adequate?
3. What training have current Navy program managers received on joint acquisition programs?

Population of Concern. This research is intended to determine the adequacy and effectiveness of the training provided to Navy joint program managers. Fully responsible for program success, the program manager is the one person most affected by joint program management problems, and the person expected to prevent or resolve them. Joint program management training should be aimed at preparing these managers. As such, the population for this research consists of all Navy joint program managers in major acquisition programs in which the Navy participates, either as the lead Service, or as a participating Service. The Navy is currently the lead Service for six major joint programs, and is participating in 18

others. The joint programs for which the Navy is the lead Service have program managers located in the Washington, D.C. area. When other Services have the lead, program offices are spread throughout the continental United States.

A 1988 draft report done by the GAO entitled Status of Joint Major Programs (9) provided a condensed listing of the 24 major joint programs in which the Navy is involved (see Appendix A). This listing comprises the entire population of interest for this research. The small number of joint programs involved in this research effort made interviews with the entire population possible. By interviewing the entire population, any chance of sampling error was eliminated. One man managed two of the programs, three programs were between program managers (the billets had been gapped and deputies were running the program), and one program manager was not available due to scheduling conflicts. Thus 18 interviews were conducted.

Survey Instrument. Structured telephone interviews with the program managers of the joint programs identified in Appendix A provided the data. A copy of the structured interview questionnaire is contained in Appendix B. The questionnaire first collected demographic data from the respondents. Next, statements of the common problems encountered in joint acquisition programs were presented to the respondents. They were asked to use the following Likert scale twice to indicate their awareness of the problems stated.



They used the scale first to indicate the extent to which their awareness was based on experience and second to indicate the extent to which their awareness was due to training. The final part of the interview used open ended questions to determine the views and opinions of current joint program managers on the adequacy of their training.

Because of the wide geographical dispersion of the population of interest, the telephone interview method was the most cost effective means for the research. The disadvantages of the telephone over face-to-face interviews are 1) the length of the interview has to be kept shorter than would be necessary in face-to-face interviews, and 2) telephone interviews normally receive less complete responses than do face-to-face interviews. Interviews also pose the risk of introducing interviewer bias (7:169-171).

The responses requiring the Likert scale rankings provided quantitative data on the extent to which program managers are aware of the common problems encountered in joint programs (i.e., lessons learned). The open ended questions allowed the respondents to express their opinions and allowed me to probe for amplification and clarification of answers.

Survey Questionnaire Validation. Before I began the interviews, the lead instructor of the one-hour block of instruction on joint program management at DSMC, and three members of the AFIT faculty with backgrounds in acquisition management, reviewed the survey questionnaire. They reviewed and suggested changes to the form and content of the questionnaire. Also, a pretest was conducted with a Navy joint program manager. The pretest was used to ensure that the questions were clear and understood, and to evaluate the content of the responses to ensure the data collected was consistent with research goals.

Data Collection. The program managers to be interviewed were contacted in advance, 1) to determine if they were willing to participate in the study and, 2) to schedule the telephone interview. Managers in 19 of the 24 programs shown in Appendix A were available to be interviewed. As stated earlier, one manager was in charge of two of the listed programs. The managers were mailed a copy of the questions for prior consideration before the interview. All interviews were conducted on commercial telephone lines to ensure scheduled appointments were kept, and all interviews were recorded.

To reduce the risk of introducing interviewer bias, I allowed the respondent to answer all questions with only minimal probing, and then only to ensure the basic question was answered. The interview was structured to last approximately 30 minutes, and was limited to the investigative questions included in the structured

interview instrument. Most interviews took between 20 and 30 minutes to complete.

Data Analysis. The nature of the investigative questions and method of data collection suggested both a qualitative and quantitative approach to data analysis. The qualitative analysis provided findings that are summarized in major themes (i.e., recurrent ideas or opinions) that seem to support major conclusions. The quantitative data support conclusions concerning program manager awareness of the common problems encountered in joint acquisition management.

Research Goal

The goal of this research is to determine the perceptions of current Navy joint program mangers about the adequacy and effectiveness of joint program managment training, and to provide recommendations where needed.

IV. Presentation/Analysis of Results

Introduction

This chapter presents the results of the 18 interviews described in chapter three. The data are presented in the same order as collected from the questionnaire (see Appendix B). Summary tables of the data collected from parts I and II of the interviews are contained in Appendices D, E, and F. An interpretation and analysis of the data follows the intitial presentation of data.

Presentation of Data

Part I -- Demographic Data. This section lists the interview questions pertaining to demographic information and summarizes the responses. The demographic makeup of the respondents is summarized in Table 1.

1. What is your age?

Seventy-eight percent of the respondents were in the 41-50 age bracket which would be expected from the grade and experience level expected of a major acquisition program manager.

2. What is your military paygrade?

Thirteen of the 18 program managers interviewed were military. Nine of the 13 were at the rank of Captain, again consistent with the experience and grade level expected of a major acquisition program manager.

TABLE 1

Demographic Makeup Of Respondents

Age:	Percent	Number
31-40	11	2
41-50	78	14
51-60	11	2
Military Pay Grade:		
04 and below	8	1
05	23	3
06	69	9
Civilian Pay Grade:		
GM-14 & above	100	5
Degree:		
Bachelor's	17	3
Master's	83	15
Years Single Service Program Management Experience:		
None	17	3
Less than 2	5	1
2 years but less than 3	17	3
3 years but less than 4	17	3
4 years but less than 5	11	2
5 years but less than 6	11	2
More than 6	22	4

TABLE 1 (cont)

Demographic Makeup Of Respondents

Years Joint Program Management Experience:		
Less than 1	34	6
1 years but less than 2	17	3
2 years but less than 3	28	5
3 years but less than 4	5	1
4 years but less than 5	0	0
5 years but less than 6	5	1
More than 6	11	2
Years in Present Position:		
Less than 1	34	6
1 years but less than 2	17	3
2 years but less than 3	28	5
3 years but less than 4	5	1
4 years but less than 5	0	0
5 years but less than 6	5	1
More than 6	11	2
Executive Agency:		
Navy	17	4
Air Force	56	11
Army	17	3

3. What is your civilian pay grade?

Five of the 18 interviews were conducted with civilian program managers. All five were GM-14s or above.

4. What is the highest educational degree you hold?

Fifteen of the 18 respondents held master's degrees. Two of the three that did not hold master's degrees were civilians.

5. How many years of single service program management experience do you have?

The responses were fairly well distributed, showing managers with a wide range of backgrounds in single service programs.

6. How many years of joint program management experience do you have?

One third of the respondents were in the first year of their respective billets, while three fourths had 3 years or less of joint program management experience.

7. How many years have you spent in your present position?

Thirteen of the 18 program managers interviewed had been in their current position for less than three years, which was expected due to the Navy's normal tour length policy. Two of the civilians had been heading their programs for more than 6 years.

8. Which service is the Executive (Lead) Agency for this joint program?

The Air Force was the lead agency in 11 of the 18 programs being studied. The Navy was the lead in four of the programs and the Army three. One Navy program manager was heading two of the programs listed in Appendix A.

Part II -- Joint Program Problems. The program managers' Likert-scaled responses to the problem statements presented in Part II are shown in Appendices E and F and summarized below. The

number and percent of responses in each category are provided, along with a weighted average for each statement. The following Likert scale was used by the respondents twice for each statement.

I am aware of this problem:

Never Heard Of	Hardly At All	Somewhat	Moderately Well	Well
1	2	3	4	5

The scale was used first to indicate the extent to which their awareness of the problem was based on experience (responses in Appendix E), and second to indicate the extent to which their awareness was based on formal training (Appendix F).

1. One of the major problems in initiating a joint program is getting agreement on joint requirements from the Services.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	1	1	1	1	14	3.89	8	6	4	-	-	1.78
Percent	5	5	5	5	80		44	33	23	-	-	

2. There is no structured process within the OSD and the services to identify joint program candidates.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	3	4	4	1	6	3.17	10	7	-	-	1	1.61
Percent	17	22	22	5	34		56	39	-	-	5	

3. The current selection process for joint programs has resulted in the initiation of a number of programs without analysis or resolution of potential problems, resulting in major difficulties later on in the program.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	3	3	5	5	2	3.0	14	2	1	1	-	1.40
Percent	17	17	28	28	11		78	11	5	5	-	

4. Participating Service partners often assign personnel to a joint program who are not versed in critical technology areas.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	6	3	3	2	4	2.72	15	1	2	-	-	1.28
Percent	33	17	17	11	22		83	5	12	-	-	

5. Participating Service partners often do not assign enough personnel to a joint program office.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	2	4	2	2	8	3.55	14	3	-	-	1	1.39
Percent	11	22	11	11	45		78	17	-	-	5	

6. Personnel participating in a joint program have divided loyalties between the joint program and their own Service affiliation.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	-	1	5	3	9	4.1	13	-	1	2	2	1.9
Percent	-	5	28	17	50		73	-	5	11	11	

7. Many major joint programs do not have a jointly approved charter.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	7	2	2	1	6	2.8	17	1	-	-	-	1.1
Percent	39	11	11	5	34		95	5	-	-	-	

8. The timing of system program mergers is sometimes out of step, often at a point where the new participating Service can't catch up without delaying the program.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	6	1	1	4	6	3.05	12	3	3	-	-	1.5
Percent	34	5	5	22	34		66	17	17	-	-	

9. Problems often result from differing Service business practices and decision making processes.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	1	-	3	5	9	4.1	12	3	3	-	-	1.5
Percent	5	-	17	28	50		66	17	17	-	-	

10. Partial or total withdrawal of one or more Service from a joint program is a common occurrence.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	2	1	7	5	3	3.33	12	3	1	1	1	1.67
Percent	11	5	39	28	17		68	17	5	5	5	

11. A higher rate of R&D schedule slippage is experienced in joint programs than in single Service programs.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	5	2	2	3	6	3.17	15	1	1	-	1	1.39
Percent	28	11	11	17	13		84	5	5	-	5	

12. Joint programs experience significantly higher schedule growth rates than single Service programs.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	4	2	5	4	3	3.00	13	2	3	-	-	1.44
Percent	22	11	28	22	17		72	11	17	-	-	

13. Joint programs experience significantly higher cost growth rates than single Service programs.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	6	-	6	2	4	2.89	13	2	2	-	1	1.56
Percent	33	-	33	11	22		73	11	11	-	5	

14. Different chains of command, organizational structures, and management practices are brought to a joint program by each Service. These differences result in multiple review and approval chains, often slowing down the program.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	1	1	2	5	9	4.1	12	2	1	3	-	1.7
Percent	5	5	11	29	50		67	11	5	17	-	

15. The program manager must often fight to get jointly agreed funds released from another Service for use.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	-	2	3	2	11	4.20	11	5	1	-	1	1.61
Percent	-	11	17	11	61		61	29	5	-	5	

16. Once funds are received, the program manager must accommodate the Services' different accounting and reporting procedures.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	1	1	4	1	11	4.17	12	2	2	2	-	1.67
Percent	5	5	23	5	62		67	11	11	11	-	

17. The Services may use different appropriation accounts to fund the same type of item.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	3	3	2	2	8	3.50	14	1	2	-	1	1.50
Percent	17	17	11	11	44		79	5	11	-	5	

18. Logistics documentation and specification requirements are inconsistent between the Services and difficult to resolve.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	-	3	5	4	6	3.70	12	2	3	1	-	
Percent	-	17	28	22	33		67	11	17	5	-	

19. Logisticians from all Services are seldom brought together early enough in a program to do the detailed, coordinated planning that can maximize commonality, minimize interface problems and reduce life cycle cost.

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	3	5	5	1	4	2.89	14	3	1	-	-	1.30
Percent	17	28	28	5	22		78	17	5	-	-	

Based on their previous experience, interviewees overall were "somewhat" to "moderately aware" of the problems presented to them. The weighted average response on the Likert scale to the problem statements was 3.43. Based on their formal training, interviewee responses were between the "never heard of" and "hardly at all" categories. The overall weighted response was 1.52.

Part III -- Job Preparation. The third part of the interview consisted primarily of open ended questions designed to find out what preparation the respondents had received prior to coming into the job. The first two questions in this part were asked to find out how many of the managers had attended the 20-week DSMC program management course, and how long ago they had attended. The results are shown in Table 2.

Questions three through eight were open ended, therefore, the responses most relevant to this research are summarized below.

3. What formal training have you received, other than the program management course at DSMC, that specifically addressed problems encountered in joint acquisition programs?

Sixteen of the 18 respondents answered "none." Two of the program managers interviewed had attended the 3-week Multi-national Program Mangement Course at DSMC in which common problems in those programs are discussed. Both believed many of the problems encountered in multi-national programs were similar to those encountered in joint programs.

TABLE 2

Attendance Of DSMC Program Management Course
Responses To Questions 1 & 2 Of Part III

Number Attending:	6
Number Not Attending:	12

When Course Attended:

	Number
Less than a year ago	1
1 year ago but less than 2	-
2 years ago but less than 3	3
3 years ago but less than 4	1
4 years ago but less than 5	-
5 years ago but less than 6	-
more than 6 years ago	1

4. What experience, education, or training has prepared you for your current job?

Experiences. Practically every military respondent cited operational tours as helpful experience for assignment to joint program management positions. Most were engaged in procuring

systems with which they were familar from their operating experience. One, for example, is a pilot with an engineering degree who heads an air missile program. Six of the program managers also stated that they had had many years of experience in joint and/or single service program offices which involved procuring systems similar to those they are procuring now.

Three of the five civilians interviewed cited extensive single and joint service program management backgrounds. One had been a program manager in private industry for 11 years, handling programs with all of the services. Three program managers cited multi-national program management experience, two with experience in NATO programs.

Of particular interest were statements made by three of the program managers who pointed out that dealing across Navy lines (i.e., NAVSEA, NAVAIR) is at least as difficult as dealing with the other services in joint programs. One stated "submariners, destroyer sailors, and aviators don't necessarily mix well."

Education/Training. Practically all respondents said their undergraduate and graduate degrees (mostly engineering) helped them in their current programs.

Five of the respondents had attended various courses or seminars on how to work with and understand politicians and the political process. Two of these courses were the "Executive Development Seminar" and the "Capitol Hill Workshop." Coming from operational backgrounds, the program managers claimed this

training was extremely valuable in understanding the political side of their program management efforts.

Two of the program managers had attended the Executive Refresher Course at DSMC. The course is designed for program managers who have already attended the 20 week program manager course. Interestingly, neither of the two respondents had attended the 20-week course. One Navy Captain remarked that when he attended the course with two other Captains, none of them had attended the 20-week course.

One program manager had attended a two-month course at the Harvard Graduate School of Business called "Program for Management Development." The course emphasizes how different people and organizations approach their problems. He believes the course applies to his current duties. Another program manager had attended DOD computer courses which he found very valuable in program management.

5. What types of tasks and situations were you not adequately prepared for?

Two of the respondents stated that they were adequately prepared for their jobs. They had progressed up through operational and acquisition related billets to their current positions.

The most frequent comment was how ill-prepared the program managers were for dealing with the other services. Seven of the program managers said they did not adequately understand the other services' organization, acquisition procedures, and/or philisophy. Three program managers said they were not adequately prepared to

deal with the political environment. One stated that dealing with the press, GAO, and Congress was "trial by fire."

Two of the program managers who had not attended DSMC expressed frustration in having to deal with such things as cost estimation, program scheduling, statements of work, and the budgeting process (especially funds transfers) without any training in those areas. One gave an example of his first meeting on funds transfers with Air Force managers in his program. He was in a very weak and vulnerable position as he had little idea of what they were talking about.

Another program manager was not prepared for the cultural differences between the services. He gave as an example the fact that the Navy operates its program offices with a few dedicated senior management personnel with extensive operational experience, while the Air Force works with a lot of junior people with little or no operational experience.

Two program managers said they were not adequately prepared to deal with civilian personnel issues. One who had just come from the fleet was totally frustrated with administrative delays. Coming from an operational setting, he was used to "getting things done."

6. Would some type of experience, education or training have helped? If so, what?

Practically all of the program managers said there is no better way to learn than by experience. Many suggested that the best way to prepare for their positions was to have a tour as a junior

officer in a joint, or even single service, program office and work up to a program manager billet.

But some specific education and training recommendations were made. Most commonly, respondents recommended training in the other services' organizational relationships, acquisition procedures, and how they do business. The program managers interviewed stressed that one of the keys to running a successful joint program is to understand how the other participating Services work.

The second most common recommendation was to send current and prospective program mangers to "political grooming school." One program manager stated that managers "can get snookered" if they don't know what is going on politically. Other program managers cited a need for a course in civilian personnel policies, regulations, etc.

A program manager who had just come into his joint program billet recommended a course structured around case studies of lessons learned from previous programs. He believed this would be a relatively inexpensive and painless way to prepare for joint program duty.

7. What has been the impact of not being adequately prepared?

Almost all of the respondents reflected some sort of frustration. Some of the more pertinent comments included:

- Long hours and loss of time in learning who is supposed to do what.

- Having to scurry around to get simple tasks accomplished. Things eventually happen--it just takes longer than it should.

- Time delays that slow procurements because the system is not understood. This lack of understanding reflects poor leadership because the program manager can't give the staff definitive guidance.

- Day in and day out frustration. There is a job to do but the program manager can't get it done, and he doesn't understand why.

- The program manager is not as effective and wastes a lot of effort by not knowing the organizations he is dealing with.

8. What kinds of experience, education, or training would you like to get now to improve your performance?

Most of the program managers who had not been to DSMC expressed a desire to do so, but all said it would be impossible to leave their programs for 20 weeks to attend. Two said they are currently trying to get into the 3-week executive refresher course at DSMC. Others said that the only way they can attend training is through short, 1- to 5-day courses. They believed that this would be the best way to bring current as well as prospective joint program managers up to date on specific topics.

Two program managers were interested in acquisition management workshops stressing different service procedures. One wanted detailed information on the different services budgeting procedures.

Others were interested in political process training courses. They wanted to have a better feel for the political side of their

programs and learn how to more effectively deal with congressional staffers. Four respondents expressed a desire for training in how to use their computers more effectively to help them manage.

Data Analysis

In the following data analysis, a number of facts clearly suggest a need in the area of joint program management training. First a general analysis of the data supporting these facts will be provided, then research questions two through four will be answered. Research question one, "What are the problems facing joint service acquisition programs?" was answered in Chapter II, Literature Review.

General Analysis.

Joint Program Management Preparation. Most joint program managers are not being fully prepared for their billets. Sixteen of the 18 joint program managers interviewed indicated that they were not fully prepared for their jobs. Only two of the 18 program managers interviewed said they were adequately prepared for their current position and thus had no response to question seven, "What has been the impact of not being adequately prepared?" The program managers that did respond to question seven cited lost time, wasted effort, and frustration in their jobs due to not being fully prepared. Why program managers are not being prepared for their jobs is discussed below.

Lack of Training. Both the Likert-scaled responses and open ended questions lead to the conclusion that joint program

managers are not being adequately trained for their positions. The lack of training can be attributed to two factors, 1) program managers are not being afforded the opportunity to attend available training, and 2) the training that is available is inadequate to prepare program managers for their job.

Managers Not Afforded Available Training. The responses to question three of Part III of the interview indicate that there is little if any training available, other than at DSMC, that addresses the problems encountered in joint program management. But only six of the 18 program managers interviewed had attended the DSMC program management course. Only one of the four program managers for which the Navy is the lead agency had attended, even though Congress has mandated that the program manager of the lead agency shall attend the course. All three program managers who had not attended had received letters of waiver. They had been pulled into their current positions on short notice and there was not time available to attend. Two of the three said that not attending has negatively affected their performance. The fact that Navy joint program managers are not being sent to DSMC suggests that Navy personnel managers are at fault for not adequately preparing joint program managers for their assignments.

Further evidence of this inadequate preparation is that joint program managers are sent to the executive refresher course at DSMC even though they have not attended the initial 20-week program management course. While the refresher course is better than nothing, it is not designed to fully prepare managers to run a

major joint program. This lack of preparation is contributing to Navy joint program mangement problems.

Joint Training Offered is Insufficient. Two conclusions are suggested from the data presented in Table 3. First, the overall average weighted response to the problem statements was 1.52. This response falls between "never heard of" and "hardly

TABLE 3

Program Manager Awareness Of Past Joint Program Management Problems

	Managers Without DSMC Training	Managers With DSMC Training	Overall Weighted Average
Number of Joint Managers Interviewed	12	6	18
Awareness Due to Training	1.25	2.09	1.52

at all" on the Likert scale and suggests that training in general covering the "lessons learned" identified in the numerous studies done on joint programs is lacking. Second, even though the data shows a higher level of awareness (2.09) for DSMC graduates, their awareness is still very low (just above "hardly at all"). Thus, this 20-week congressionally mandated course, supposed to "prepare" joint program managers for their assignments, falls short of doing so. The data suggest that the managers interviewed, both those

attending DSMC and those not attending DSMC, were not properly alerted to the pitfalls that could lie ahead.

The fact that joint program managers are not being alerted to the potential pitfalls is significant. For example, the responses (Table 4) to the first problem statement in Part II of the questionnaire

Table 4

Responses To Problem Statement 1 Of
Part II Of The Questionnaire

"One of the major problems in initiating a joint program is getting agreement on joint requirements from the services."

	Experience						Training					
	1	2	3	4	5	Avg	1	2	3	4	5	Avg
Number	1	1	1	1	14	3.89	8	6	4	-	-	1.78
Percent	5	5	5	5	80		44	33	23	-	-	

show that most of the joint program managers have experienced the problem of getting the Services to agree on joint requirements. Fourteen of the 18 managers (approximately 80%) were well aware of the problem based on experience, but 80% had received little or no training addressing this problem. As discussed in the Literature Review, if requirements issues are not resolved early on in a program's life cycle, the program manager will have to resolve them later. Sometimes the requirements issues are never resolved, forcing one or more Services to drop out of the program. A program

manager aware of this potential pitfall would know not to continue a program until the requirements issues were resolved. An unaware program manager could waste considerable time and money heading up a program that could fall apart after months or years of effort. While knowing about potential problems may not prevent them from happening, a manager may at least better prepare himself to deal with them. In other cases, such as the requirements problem described above, problems can be avoided if a manager knows that they commonly occur.

Lack of Joint Program Management Experience. Most of the current joint program managers lack joint program management experience. Fourteen of the 18 managers interviewed had less than three years joint program management experience, and less than three years in their present positions. Six of the 14 managers with less than three years joint program experience had less than three years single service program management experience. Of those six, three had no single service program management experience. During the interviews, the managers with extensive experience in single and joint program offices stressed the value of this experience in their current positions. They are more familiar with acquisition procedures and all of the elements that make up their internal and external environments.

The constant turnover in military managers, caused by Navy tour length policies, means that new managers must constantly be trained in, or learn on the job, the problems that can be encountered in joint programs. The fact that one third (6 out of 18)

of the managers interviewed had less than three years of joint or single service program management experience also suggests that the constant turnover is forcing Navy personnel managers to assign inexperienced managers. There is a lack of Navy military managers with previous joint and/or single service program management experience because the Navy normally doesn't assign junior officers to program management offices.

Joint Program Manager Preparation Problems Linked. The joint program manager training and experience level problems identified above are not independent of each other. Three of the program managers interviewed that had less than three years of joint program experience, and no single service program management experience, had not attended the 20-week DSMC program management course. Not only are these program managers lacking experience in a program management environment, they have not been trained either. The lack of experienced managers, coupled with the inadequate training being provided, suggests a change is required in Navy personnel assignment and training policies.

Ways to Deliver Training. The above analysis, and responses from the program managers interviewed, suggest three ways in which joint program management training should be provided to current and prospective program managers. Training should be provided through, 1) long formal training courses such as the 20-week DSMC program manager t course, 2) short courses, one to five days long, and 3) through study analyses.

Long Course. A long course, such as the 20-week program management course at DSMC, is required to prepare a manager for a joint program management billet, especially an operational manager with little or no program management experience. Congress recognized this fact and mandated that all major joint program managers attend the DSMC program management course.

The value of this type of training is apparent from the interviews. All six of the managers that attended the 20-week course found the training helpful in preparing them for their current positions. The quantitative data also support the conclusion that long courses are helpful in preparing managers for joint program management billets. As discussed earlier, DSMC graduates exhibit a higher level of knowledge (2.09) of the problems that can confront a joint program manager than do those who have not completed the 20-week course (1.25). Even though graduates of DSMC are more aware than are non-graduates, their awareness is still very limited. The fact that the awareness of DSMC graduates is so low suggests that changes need to be made in the training being provided at DSMC. The changes suggested by this research will be addressed later in the section "Content Areas."

Short Courses. Short courses on specific topics, designed to update current managers on the latest program management issues, seem to offer the best training opportunity for a busy joint manager. As the interview respondents pointed out, current program managers have little or no hope of attending a long

course. One week seemed to be the longest time a manager could realistically expect to be away from his program in order to attend training. A short course is a good mechanism by which to bring joint managers up to date on the continuously changing laws and policies that can directly or indirectly affect a joint program.

Case Studies. One of the program managers suggested a course structured around case studies of lessons learned from previous joint programs. The case study method permits past joint program successes and failures to be studied in depth in order to learn where programs go wrong and what works. Properly done, the most common problems in joint program management could be analyzed and discussed using real life case analyses to which prospective program managers could easily relate. The case study method could be used in a course such as the DSMC program management course to teach lessons learned from previous programs, or in a short course format aimed at specific joint program management issues.

With the relatively small number of joint programs over the past 10 years, the cost effective need may not have been there for specific joint training. But with the growth in the number of joint programs, the need now appears to be there. The three methods discussed above to adequately prepare a joint program manager should be considered. The specific content of joint training suggested by this research is examined below.

Joint Training Content.

Long Course. This research suggests that the content of current joint program management training should be altered. While most of the problems encountered in single service programs are present in joint programs, many of the problems and challenges in a joint program are not present in a single service program. The 20-week program management course at DSMC is designed primarily to train single service program managers, with only a one hour block of instruction covering joint acquisition program management. The complex, unique characteristics of joint programs suggest that a one hour block of instruction is insufficient Results of the data analysis discussed earlier support this contention. The program managers interviewed that had attended DSMC had received little training in the common problems affecting joint programs.

The above facts suggest that the DSMC training for joint program managers should be expanded or altered. The 20-week course is a valuable training mechanism for joint managers as many aspects of single service and joint service programs are the same. But joint managers need more. Training at DSMC should be modified to accommodate the needs of managers heading for joint billets. Joint program management training should be offered in two phases:

- The first phase should address the program management elements common to both the single and joint service environments.

The current 20-week course is designed to do this, and the program managers interviewed stated that DSMC covers the material well.

- The second phase should cover specific joint program management issues, including discussions of the lessons learned identified in the numerous studies done on joint programs. The training should be broken into blocks of instruction on specific joint program management topics such as those described below.

Lessons Learned. Lessons learned training should include the implications of, and possible solutions for, the common problems identified in the Literature Review. This training would cover a wide range of topics, including:

- Service requirements issues, and why getting agreement is so difficult,

- personnel issues, such as quantity and quality of program office personnel,

- charters and memorandums of agreement,

- how multiple review and approval chains can slow down a program,

- funding issues, such as different Service accounting and reporting procedures, and

- logistics problems.

The best means by which to make joint program managers aware of past lessons learned would probably be a case study approach.

Political Process Training. Comments from the program managers interviewed suggest that joint program

management training should include instruction on how to deal with the underlying political processes surrounding joint program management. Six of the program managers interviewed remarked on the political aspects of joint program management, with three of the managers stating that they weren't adequately prepared to deal with the politics involved in their programs. Political process training should teach program managers how Congress works, how politicians can affect a joint program, the relationships and importance of different Congressional committees and sub-committees to a program office, and how best to approach briefings with Congressional committees and staff.

The "lessons learned" training described previously would naturally cover political issues, as many of the problems that occur in joint programs are political in nature. One example is how Congress gets involved in the selection process for joint programs. Another example is how Congress can change program funding, possibly causing a Service to drop out.

Organizations and Procedures. Joint program management training must cover the Services' different organizational structures and acquisition procedures. The most common remark from the managers interviewed was that they did not adequately understand the other Services' organizational structures and procedures. Problem statement 14 of Part II of the interview, "Different chains of command, organizational structures, and management practices are brought to a joint program by each service. These differences result in multiple review and approval

chains, often slowing down the program." would help explain why the managers might comment on their lack of knowledge of the other Services' organizations and procedures. Eighty percent of the respondents indicated they were "moderately" to "well" aware of the problem based on their experience.

Again, the "lessons learned" training discussed earlier should address the organizational structures and acquisition procedures of the different Services, and how the different structures and procedures can impact on a joint program.

Short Courses. The length of time required to cover the various topics recommended above for the second phase of training at DSMC cannot be determined from this research -- that decision must be made by the course administrator. But it is recommended that the training be kept to a week or less. This recommendation is made for two reasons. First, the basic program management course is already 5 months long, and that is why many managers are not afforded the opportunity to attend. Second, this phase of the training could be offered as a separate short course. Joint managers that have previously attended the 20-week course, or managers with extensive single service program management experience, would have time to attend if the course length is kept down. If the short course was developed in specific blocks of instruction, DSMC would have the flexibility of offering each block as a separate course. Shorter courses would allow even greater attendance by current joint managers.

Experience Requirements. Joint program management training should supplement and draw on the experience base of joint program managers. Operational and previous program management experience appear to be the most valuable to a joint manager.

Operational Experience. Operational experience with systems similar to the system being procured is valuable to a joint program manager. Every military respondent cited his operational background as invaluable to them in their current assignments. The experience gives them, among other things, professional credibility with their peers, and teaches them the "language" (i.e., slang) of the community for which the system is being built. Navy personnel managers have recognized the value of operational experience, and place senior officers in joint program management billets accordingly.

Program Management Experience. Single Service, joint, and multi-national program management experience is all valuable to a joint program manager. Those managers interviewed with previous experience in a program management office, not neccessarily as the program manager, found that experience valuable. They were more comfortable in a program management environment, and more experienced in dealing with the issues that arise in a program office.

Joint Experience. The data show the value of previous program management experience to joint managers. The Likert scale responses used to measure problem awareness due to experience showed the average weighted response of the six program managers with less than one year joint program experience is 3.09.

The average response for the four managers with more than three years experience is 3.68.

Single Service Experience. Single Service program management experience across Navy departmental lines (i.e., NAVSEA, NAVAIR) offers experience in dealing with different organizational structures, organizational policies, and ways of doing business. Program managers interviewed that had experience in single Service Navy programs that crossed departmental lines experienced the same difficulties in dealing across Navy lines as they have experienced across Service lines.

Multi-National Experience. Three program managers made the same observation about multi-national program management experience as the other managers made about experience across departmental lines. Instead of dealing across Service or departmental lines, multi-national programs deal across national lines. The same problems caused by different organizational structures and management practices in joint programs are present in multi-national programs.

General Analysis Summary. The general analysis has outlined specific problems and observations on the preparations joint program managers are receiving for their assignments. The problems identified included inadequate program management training, and program managers with little program management experience. Ways to deliver the training required, and the content requirements of that training, were also discussed. Observations were also made

on experience backgrounds that can help a joint program manager manage his program.

Research Questions Answered

Research Question 1. What are the problems facing joint service acquisition programs?

The Literature Review (Chapter II) summarizes problems faced by joint service acquisition programs breaks them down into three categories: those that occur in the program selection phase, those that occur in the program initiation phase, and those that occur during program execution. The selection phase includes problems encountered in the process whereby programs are considered for establishment as a joint program. The initiation phase includes the establishment and staffing of the program office. The last phase, execution, contains the problems involved in the day-to-day management of joint programs.

Research Question 2. Are joint program managers aware of problems encountered on past joint programs?

The Likert scaled responses to the problem statements presented in Part II of the interview indicate that in general the answer is "yes." But when and how they learned of the problems must be addressed. The data suggest that in general program managers are not aware of the problems prior to coming into their programs. They are learning of the problems first hand from their work experience. The lessons learned identified in the numerous joint program management studies are apparently not being

conveyed to prospective program managers through any type of training.

Research Question 3. Do current program managers consider their training adequate?

From the interviews conducted, the answer in general is "no." Most of the managers had received little or no joint program management training. Only six of the eighteen interviewed had been to the 20 week DSMC program management course, the one course intended to prepare joint and single service program managers for their jobs. And of those that did attend, there appears to be a shortfall in specific joint program management training. The program managers that did attend had only a slightly better awareness of past joint problems than those that had not attended.

The interviews turned up numerous areas in which the program managers felt they were not adequately prepared. Many of the training recommendations made during the interviews would benefit a joint program manager. Practically every manager interviewed cited frustrations and wasted effort from inadequate preparation for their jobs.

Research Question 4. What training have current program managers received on joint acquisition programs?

The program managers interviewed have received little if any specific joint program management training. Only three courses were identified through this research that would be considered beneficial to a current or prospective joint program manager, the 20-week Program Management Course, the 3-week Executive

Refresher Course, and the 3-week Multi-national Program Management Course; all taught at DSMC.

Other relevant training is available from various "political process" type courses taught in the Washington, D.C. area, such as the "Executive Development Seminar" and the "Capitol Hill Workshop." While not specifically geared to teach joint programs, the political process courses appear to be very suited to the needs of a joint program manager. Many of the problems and challenges they face are directly attributable to dealing with the political side of their respective programs.

Chapter Summary

Chapter IV summarizes and interprets the findings of the research study. It also provides answers to the four research questions proposed in Chaper I. Chapter V will present specific recommendations for improving joint program management training.

V. Conclusions and Recommendations

This chapter provides a brief summary of the research study, presents conclusions based on the analysis of the data, and outlines recommendations for joint acquisition program management training and future research.

Research Study Overview

This study was undertaken to determine if the training joint program managers are receiving is adequate to prepare them for the unique problems associated with joint acquisition programs.

Structured telephone interviews were conducted with Navy joint acquisition program managers to gather data on their awareness of the unique problems associated with joint program management. The interviews were also used to investigate the training joint managers have received, and to explore areas where joint program management training might be improved. A quantitative data analysis was done to support conclusions concerning program manager awareness of the common problems encountered in joint program management. Open ended questions from the interviews were qualitatively analyzed to determine recurrent ideas and opinions on the quality of current joint acquisition program management training, and how the training might be improved. The following section provides conclusions based on the data presented in Chapter IV.

Conclusions

This research examined whether the training joint program managers receive is adequate for the job they are tasked to do. Based on the results of the interviews with Navy joint acquisition program managers, the only possible answer is "no". Following is a summary of the conclusions drawn from this research.

1. Current joint program managers are not being fully prepared for their positions due to insufficient training and program management experience. Training shortfalls can be divided into two categories, 1) program managers are not being sent to available joint program management training, and 2) the joint training that is offered is lacking. Program management experience is lacking due to the Navy's tour length policy (managers normally rotate every 3 years), and the Navy's policy of placing its junior and mid-career officers in operational instead of non-operational billets such as a program office.

2. Both long and short courses are effective ways to deliver training to joint program managers. A long course is required for basic instruction in all aspects of program management, especially for managers with no program management experience. Short courses on specific joint topics, less than a week in length, are an effective means to bring managers up to date on current issues, and supplement long course material. Also, joint program managers already in their jobs can usually find time to attend a short course

3. The content of current joint program management training needs to be altered to include training in the lessons learned from

previous joint programs, the political aspects of joint program management, and the Services' organizational structures and acquisition procedures. Case analyses, used in a long or short course of instruction, offer an effective means of alerting program managers to the potential pitfalls that can befall a joint program.

4. Previous program management and operational experience is valuable to joint program managers. Worthwhile program management experience can be obtained from joint, single Service, and multi-national programs.

Recommendations

A number of recommendations are offered below. These recommendations are divided into two categories. First, recommendations for Navy personnel managers are presented. Second, recommendations for training organizations, especially DSMC, are offered.

Recommendations For Navy Personnel Managers.

Recommendation Number One. Naval Officers programmed to fill joint program management billets should be 'pipelined' through the program management course at the Defense Systems Management College without fail. Routinely asking for attendance waivers reflects poor personnel management practices on the part of Navy personnel managers. It is also not fair to a Naval officer to put him into a demanding, new environment without any preparation.

Recommendation Number Two. Develop a career ladder for potential acquisition managers beginning at the 03/04 level that includes a tour in a joint, single-Service, or multi-national program office. Establishing a career ladder would entail tabbing mid-career officers to fill future program management billets. Officers in the career ladder could be programmed well in advance to attend required training at DSMC. This recommendation would establish a pool of experienced, trained managers, fully prepared to fill joint program billets.

Recommendations for Training Organizations.

Recommendation Number One. A training course should be developed for joint acquisition program managers to supplement the 20-week Program Management course at DSMC. As the leading expert in program management training, DSMC is the most qualified institution to develop the training. The supplemental training should focus on the problems and issues unique to joint acquisition programs. Case studies of previous joint programs should be used to address the lessons learned, both good and bad, from those programs. Other topics that should be addressed in this training are the Services' different organizational structures and acquisition procedures, and the political processes impacting on a joint program. Political process training should include instruction on how to conduct briefings at the Congressional level, and the relationships and power different Congressional committees and subcommittees hold over joint programs.

Recommendation Number Two. Make every attempt to develop the supplemental training course to last a week or less. The supplemental course should be kept short for two reasons. First, the joint program managers attending the Program Management course will have already been in school for 5 months. Lengthening the time prospective managers must spend in school will only exclude more managers from attending. Second, current joint program managers can probably find time to attend a one-week course. The supplemental joint program management training could be taught as a separate course. It could be taught to prospective managers coming out of the 20-week course, and to managers already in joint program management positions. The training could also be provided to a manager that would otherwise be sent directly to a joint program without any training because "there isn't enough time." The manager would at least be exposed to the problems that could confront him, and ways to deal with or avoid those problems.

Recommendation Number Three. Develop the joint program management course into "blocks" of instruction, with each block covering a specific joint topic. This would allow the flexibility of breaking out the blocks so they could be taught as separate one or two day seminars. Instructors could go to the managers, such as to the Naval Sea Systems Command, and teach on-site. This would increase the availability of joint training to current managers and their staff. For example, if a program manager found that his staff wasn't aware of the organizational structure of the other Services attached to his program, he could have DSMC come in and teach a

one day course tailored to teach the Services' different organizational structures.

Summary

This research was accomplished to examine joint program management training. This study was limited to Navy joint program managers in major acquisition programs. Since the study was confined to only Navy managers and major programs, some caution must be taken when trying to generalize these conclusions to another Service or a smaller joint program.

There are many potential pitfalls that can confront a joint program manager. Proper training in how to avoid and handle these problems can help a program manager avoid a lot of frustration, and possibly save a program. There are currently several problems in the way the Navy is preparing joint acquisition managers for their jobs. The solution will require a coordinated effort between Navy personnel managers and DOD training institutions, most notably the Defense Systems Management College.

The recommendations presented have of necessity been somewhat broad in scope. This is in keeping with the purpose of the study, to determine if joint acquisition managers are being properly prepared for their jobs. I recommend that further research be conducted into the specific training needs of joint acquisition managers. This would yield more precise information for curriculum planning. Also, the needs of mid and lower level managers should be examined. Case studies also need to be performed on past programs,

both successes and failures, for input into the joint training recommended in this research.

Appendix A: Joint Major Defense Programs In Which The Navy Participates

Program	Lead Service	Participating Service	Current Phase
1. Air Defense Initiative (ADI)	AF	N	CE
2. Advanced Medium range Air-to-Air Missile (AMRAAM)	AF	N	FSD/P&D
3. Airborne Self_Protection Jammer	N	AF	FSD/P&D
4. Advanced Tactical Air Reconnaissance System (ATARS)/Unmanned Air Reconnaissance System (UARS)	AF/N	MC	FSD
5. Combat Identification System (CIS)	AF	N/A	FSD
6. Defense Meteorlogical Satellite Program (DMSP)	AF	N/A/ MC	P&D
7. High Speed Anti-Radiation Missle (HARM)	N	AF	P&D
8. Hellfire Missle System	A	N	P&D
9. High Mobility Multipurpose Wheeled Vehicle (HMMWV)**	A	N/AF	P&D
10. Integrated Electronic Warfare System (INEWS)	AF	N/A	FSD
11. Integrated Communications Navigation Identification Avionics (ICNIA)	AF	N/A	DV
12. Joint Tactical Fusion (JTF)**	A	AF/N	FSD
13. Joint Tactical Information Distribution System (JTIDS)	AF	N/A/ MC	FSD
14. Maverick Missile	AF	N/MC	P&D
15. Military Strategic and Tactical Relay Satellite (MILSTAR)	AF	N/A	Classified
16. Navstar Global Positioning System (Navstar GPS)**	AF	A/N MC	P&D
17. Sidewinder Missile	N	AF	P&D
18. Single Channel Ground and Airborne Radio System (SINCGARS)**	A	N	P&D
19. Sparrow Missile	N	AF	P&D
20. Stinger Missile	A	N/MC AF	P&D

21. Tacit Rainbow Missile	AF	N/A	FSD
22. Joint Tactical Communications (TRI-TAC)	A	N/MC/ AF	FSD
23. V-22 Osprey Aircraft**	N	A/MC/ AF	FSD
24. World Wide Information System (WIS)	AF	N/A	FSD

**Program Mangers in these programs were not interviewed for this study.

Abbreviations and Acronyms

A	Army
AF	Air Force
CE	Concept Exploration
DV	Demonstration and Validation
FSD	Full-Scale Development
MC	Marine Corps
N	Navy
P&D	Production and Development

Appendix B: Interview Questionnaire

JOINT PROGRAM MANAGEMENT TRAINING QUESTIONNAIRE

PART I. This part asks for background information.

1. What is your age?

   (1) 20 - 30
   (2) 31 - 40
   (3) 41 - 50
   (4) 51 - 60
   (5) over 60

2. For active duty military, what is your military pay grade?

   (1) 04 and below
   (2) 05
   (3) 06
   (4) 07 and above
   (5) Not Applicable

3. For DOD civilians, what is your civilian pay grade?

   (1) GS-10 and below
   (2) GS-11/GS-12/GS-13
   (3) GM-14 and above
   (4) Not Applicable

4. What is the highest educational degree you hold?

   (1) No college degree
   (2) Associate degree
   (3) Bachelor's degree
   (4) Master's degree
   (5) Doctoral degree

5. How many years of single service program management experience do you have?

(1) None
(2) Less than 2
(3) 2 years but less than 3
(4) 3 years but less than 4
(5) 4 years but less than 5
(6) 5 years but less than 6
(7) More than 6 years

6. How many years of joint program management experience do you have?
(1) Less than 1
(2) 1 year but less than 2
(3) 2 years but less than 3
(4) 3 years but less than 4
(5) 4 years but less than 5
(6) 5 years but less than 6
(7) More than 6 years

7. How many years have you served in your present position?
(1) Less than 1
(2) 1 year but less than 2
(3) 2 years but less than 3
(4) 3 years but less than 4
(5) 4 years but less than 5
(6) 5 years but less than 6
(7) More than 6 years

8. Which Service is the Executive (Lead) Agency for this joint program?
(1) Navy
(2) Air Force
(3) Army
(4) Other_____

PART II. Past studies have identified several problems that can hinder joint program success. Following is a listing of many of these problems. For each item, use the scale below to indicate the extent to which you are aware of the problem described in each statement. The scale is to be used twice for each statement. First, indicate the extent to which your awareness is based on <u>experience</u> by checking the appropriate square. Second, indicate the extent to which your awareness is based on formal education by checking the appropriate square under <u>training</u>.

<u>I am aware of this problem:</u>

Never Heard Of	Hardly At All	Somewhat	Moderately Well	Well
1	2	3	4	5

	Experience	Training
1. One of the major problems in initiating a joint program is getting agreement on joint requirements from the Services.	□□□□□ 1 5	□□□□□ 1 5
2. There is no structured process within the OSD and the services to identify joint program candidates.	□□□□□ 1 5	□□□□□ 1 5
3. The current selection process for joint programs has resulted in the initiation of a number of programs without analysis or resolution of potential problems, resulting in major difficulties later on in the program.	□□□□□ 1 5	□□□□□ 1 5
4. Participating Service partners often assign personnel to a joint program who are not versed in critical technology areas.	□□□□□ 1 5	□□□□□ 1 5
5. Participating Service partners often do not assign enough personnel to a joint program office.	□□□□□ 1 5	□□□□□ 1 5
6 Personnel participating in a joint program have divided loyalties between the joint program and their own service affiliation.	□□□□□ 1 5	□□□□□ 1 5
7. Many major joint programs do not have a jointly approved charter.	□□□□□ 1 5	□□□□□ 1 5

I am aware of this problem:

Never Heard Of	Hardly At All	Somewhat	Moderately Well	Well
1	2	3	4	5

	Experience	Training
8. The timing of system program mergers is sometimes out of step, often at a point where the new participating Service can't catch up without delaying the program.	□□□□□ 1 5	□□□□□ 1 5
9. Problems often result from differing Service business practices and decision making processes.	□□□□□ 1 5	□□□□□ 1 5
10. Partial or total withdrawals of one or more service from a joint program is a common occurrence.	□□□□□ 1 5	□□□□□ 1 5
11. A higher rate of R&D schedule slippage is experienced in joint programs than in single service programs.	□□□□□ 1 5	□□□□□ 1 5
12. Joint programs experience significantly higher schedule growth rates than single service programs.	□□□□□ 1 5	□□□□□ 1 5
13. Changes are often made unilaterally by participating services in response to changing needs and priorities. This is made possible by the involvement of more than one service in the program budget and requirements formulation process.	□□□□□ 1 5	□□□□□ 1 5
14. Different chains of command, organizational structures, and management practices are brought to a joint program by each service. These differences result in multiple review and approval chains, often slowing down the program.	□□□□□ 1 5	□□□□□ 1 5
15. The program manager must often fight to get jointly-agreed funds released from another service for use.	□□□□□ 1 5	□□□□□ 1 5
16. Once funds are received, the program manager must accommodate the services' different accounting and reporting procedures.	□□□□□ 1 5	□□□□□ 1 5
17. The services may use different appropriation accounts to fund the same type of item.	□□□□□ 1 5	□□□□□ 1 5

I am aware of this problem:

Never Heard Of	Hardly At All	Somewhat	Moderately Well	Well
1	2	3	4	5

	Experience	Training
18. Logistics documentation and specification requirements are inconsistent between the Services and difficult to resolve.	□□□□□ 1 5	□□□□□ 1 5
19. Logisticians from all Services are seldom brought together early enough in a program to do the detailed, coordinated planning that can maximize commonality, minimize interface problems and reduce life cycle cost.	□□□□□ 1 5	□□□□□ 1 5

PART III. This part contains questions related to the preparation you received for your current job.

1. Have you attended the 20-week program management course at the Defense Systems Management College?

(1) Yes
(2) No

2. If the answer to question 1 is "yes", when did you attend the course?

(1) Less than a year ago
(2) 1 year ago but less than 2
(3) 2 years ago but less than 3
(4) 3 years ago but less than 4
(5) 4 years ago but less than 5
(6) 5 years ago but less than 6
(7) more than 6 years ago
(8) not applicable

3. What formal training have you received, other than the program management course at DSMC, that specifically addressed problems encountered in joint acquisition programs?

_____
_____
_____
_____
_____
_____
_____

4. What experiences, education, or training have prepared you for your current job?

_____
_____
_____
_____
_____
_____
_____

5. What types of tasks or situations were you not adequately prepared for?

6. Would some type of experience, education, or training have helped? If so, what?

7. What has been the impact of not being adequately prepared?

8. What kinds of experience, education, or training would you like to get now to improve your performance?

Appendix C: Search Terms

First Level Search Terms

Joint
Joint Military Activities
JSA (Joint Multiservice)

Second Level Search Terms

Air Force Procurement
Army Procurement
Government Procurement
Industrial Procurement
Military Procurement
Multiservice Acquisition
Naval Procurement
Procurement
Program Management
Training

Excluded Terms

Foreign
Government(Foreign)
International
Military Forces (Foreign)
NATO

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Vita

Russell H. Rhea [redacted] graduated from George Dewey High School, Subic Bay RP in 1973. In 1977, he graduated from the University of Oklahoma with the degree Bachelor of Business Administration. Upon graduation he received a commission in the USN through the ROTC program, and attended the Navy Supply Corps School in Athens GA. He was then assigned to the USS Midway (CV-41) as an Assistant Supply Officer. His next assignment was to the Navy Supply Center, Oakland CA as a Navy Acquisition Contracting Officer intern. He next was assigned as Supply Officer onboard the USS Haleakala (AE-25). He then was transferred to the Defense Electronic Supply Center, Dayton OH. While there, he completed the requirements for a Master of Business Administration from Wright State University. He entered the School of Systems and Logistics, Air Force Institute of Technology in May 1988. In May 1989 he obtained certification as a Certified Professional Logistician.

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This study investigated the question of whether the training Navy joint program managers receive adequately prepares them for the unique problems associated with joint acquisition programs. Literature was reviewed to determine the common problems confronted by joint program managers. Then, personal interviews were conducted with Navy joint managers to determine their awareness of the problems associated with joint program management. The interviews were also used to investigate the training joint managers have received, and to explore areas where joint program management training might be improved. Many general and specific problems and issues were identified using qualitative and quantitative analyses.

The overall conclusion of this study is that Navy joint acquisition program managers are not being adequately prepared for the job they are tasked to do. Weaknesses were identified in the current joint acquisition training being provided, and Navy personnel management policies. Specific recommendations for Navy personnel managers and training institutions are provided.