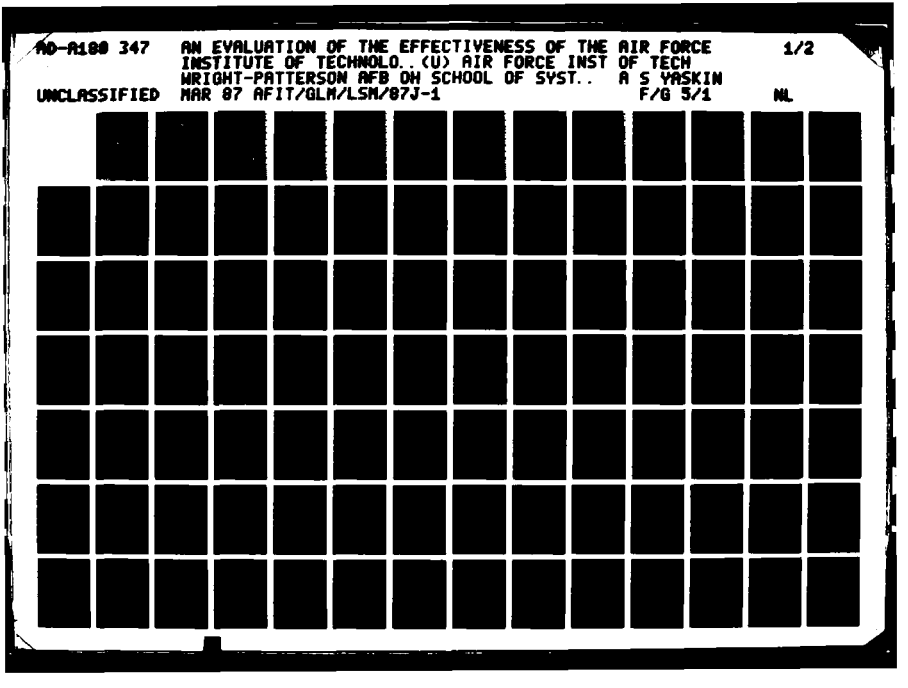
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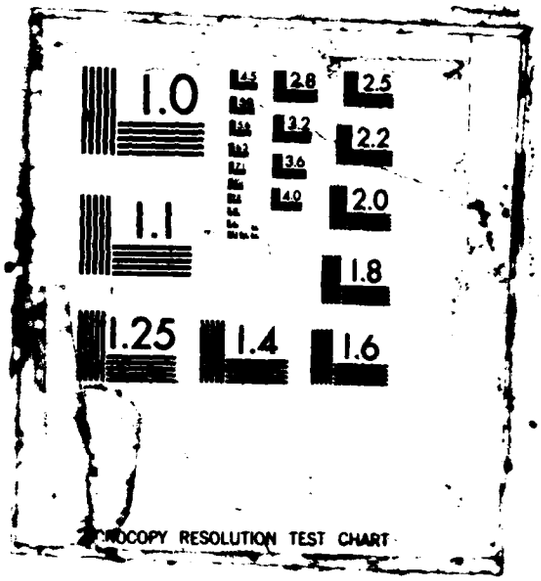
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AN EVALUATION OF THE EFFECTIVENESS OF THE AIR FORCE INSTITUTE OF TECHNOLOGY'S SUPPLY MANAGEMENT OPTION AS PERCEIVED BY OPTION GRADUATES

THESIS

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Wright-Patterson Air Force Base, Ohio

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AN EVALUATION OF THE EFFECTIVENESS OF THE AIR FORCE INSTITUTE OF TECHNOLOGY'S SUPPLY MANAGEMENT OPTION AS PERCEIVED BY OPTION GRADUATES

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
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In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

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Abstract

This research effort measured the effectiveness of the Air Force Institute of Technology School of Systems and Logistics Supply Management Option. Graduates provided feedback and data on the usefulness of their graduate education in the performance of supply duties. The target population was all supply officers who graduated from AFIT and are currently on active duty in supply jobs. This population was divided into two subpopulations: supply management option graduates and non-supply option graduates. Surveys were mailed to the 168 supply officers who have graduated from AFIT. The response rate was 61.3 per cent with 103 of the surveys returned. The survey consisted of three parts. Part I was biographical data; Part II included questions on supply tasks; and Part III involved questions on skills, concepts and techniques learned at AFIT. The data were analyzed using a mean score differentiation for each of the questions from Parts II and III of the survey. The differences between the two subpopulations were analyzed, along with the differences of the mean scores within the subpopulations. Research results indicate that there is little difference between the usefulness of the supply option and other options taken by supply officers. The results indicated the supply management option was effective.

AN EVALUATION OF THE EFFECTIVENESS OF THE AIR FORCE INSTITUTE OF TECHNOLOGY'S SUPPLY MANAGEMENT OPTION AS PERCEIVED BY OPTION GRADUATES

I. Introduction

Background

The purpose of the Air Force Institute of Technology (AFIT) is to provide "education and training to meet Air Force requirements in scientific, technological, managerial, medical, and other fields as directed by Headquarters United States Air Force (HQ USAF)" (10:1). One such field is supply. Through the graduate supply management option, AFIT exposes supply officers to the technology and theory of supply management with particular emphasis on assets and organizational productivity (9). The curricula provides students an opportunity to acquire skills needed to meet the supply community's requirements for personnel well-versed in logistics areas (9).

In the course of this thesis, the reviews of the AFIT evaluation programs were researched as well as the documentation to support the initiation of the supply management option. There were few files on the supply management option available. A conversation with Lt Col James Masters, HQ USAF/LEXY, indicated that the establishment of the supply management option was an internal initiative by AFIT and few files were available (20). It was difficult, therefore, to

determine that the current curriculum was a deliberate and conscious effort to meet a specified Air Force need. Other sources of information on the program were also reviewed for information on the supply management option. These sources were Program Review Committee (PRC) records and Annual Course Reviews (ACR) (25). Again, there was little useful information about the development of the supply management option.

The PRCs and ACRs included information such as trend statistics. These statistical trends were divided into the three major areas of concentration: Graduate Engineering (GEM), Graduate Logistics (GLM), and Graduate Systems (GSM). The data were collected by surveying the graduate student population. However, these surveys and trends do not present the information by specific options such as supply (2:49-80). Therefore, their utility as indicators of program satisfaction may be misleading. Because no trend data were developed for specific options within the general programs, positive and negative factors impacting the specfic options within the general programs could not be determined.

Specific Problem

Since no specific data have been gathered on the supply management option, the effectiveness of the education received by the graduates is difficult to determine. To determine if the program is effective, empirical data which measure the effectiveness must be gathered. The purpose of this thesis is to collect data to determine if the supply management option is effective.

Hypotheses and Research Questions

There is one central research question to be answered in this thesis: Is the supply management option at AFIT effective? The hypotheses are:

Ha: Graduates of the supply management option percieve the supply management option to be more useful in the performance of supply duties than supply officers who graduated from other options.

Ho: Graduates of the supply management option perceive the supply management option to be no more useful in the performance of supply duties than supply officers who graduated from other options.

The test of these hypotheses will provide an answer as to the effectiveness of the supply management option at AFIT. Sub-research questions to be answered in the process are: What is educational effectiveness? How can it be measured? What has been done in the past to evaluate AFIT programs?

If the graduates of the supply management option perceive their ability to perform supply tasks was improved as a result of having taken the supply management option, then the supply management option may be termed "effective".

Scope

The scope of this thesis is limited to those aspects of program evaluation that will test the hypotheses and answer the research questions. Primarily this project is limited to an assessment of student perceptions of the relative

importance of their graduate education to the tasks they perform and the importance of the tasks. These perceptions will be evaluated using data gathered by surveying all current active duty supply officers who graduated from AFIT and are presently assigned to supply positions. The survey will gather specific biographical data and feedback on how much the graduates perceive the supply program helped them in 18 specific tasks. These tasks were identified as tasks that most supply officers perform as determined by a job inventory conducted by the Air Force Occupational Measurement Center (23). The survey for this thesis also included an assessment of how the graduates perceived the degree to which 15 concepts, processes, and techniques taught at AFIT helped them perform the 18 tasks. The 15 concepts, processes, and techniques are identifed in the Graduate Evaluation Program. (2:49-82)

Limitations

The limitations represent specific parameters on the scope of this research effort. These limitations help define and clarify the topic areas included in the research. These limitations are:

1. This study is limited to supply officers who are graduates of AFIT programs.

2. The tasks and duties are those specified in research conducted by the Air Force Occupational Measurement Center (OMC).

3. The concepts, processes, and techniques are limited to those 15 items outlined in the Graduate Evaluation Program (2:49-82).

4. Six weeks were allowed for data collection. This time frame coupled with overseas locations of some of the graduates may have influenced the return rate of the surveys from those locations.

5. Graduates who did not respond to the survey could influence the interpretation and analysis of the data. The data collected, therefore, may not represent the entire population's perceptions. However, the Central Limit Theorem may be expected to compensate for the lack of response (6:213).

6. The supply management option subpopulation is 28 officers. The supply officer subpopulation who graduated from other options is 140 graduates. Because the supply management option sub-population is small, a low response rate may not provide an adequate number for a definitive evaluation.

Assumptions

1. The data collected from Occupational Measurement Center (OMC) is assumed to be accurate and correct.

2. The 15 concepts, processes, and techniques used in Part II of the survey instrument represent the basic areas taught at AFIT. It is assumed that these 15 areas are used

most often by graduates of the supply management option. No academic areas other than the 15 areas identified in Part II of the survey are included in this study.

3. It is assumed that the responses given by the subpopulations of graduates are accurate assessments and evaluations of the questions in the survey.

4. It is assumed that the method used to analyze the data will accurately assess the perceptions of the graduates. The basic data analysis method is predicated on a method used by Lyman Porter in evaluating perceived deficiencies in different levels of management. Since supply officers represent the management of the supply career field, it is assumed that application of Lyman Porter's method will yield reliable results.

5. The findings of this study are of relevance and importance to AFIT and the Air Force. The results are assumed to be important and relevant because they could reveal deficiencies in the supply management option program as perceived by the graduates. These findings could be used to make adjustments to the existing supply management option.

Definition of Terms

Educational effectiveness-the ability of the graduates to transfer what they learned to the job environment.

Professional Military Education (PME)-PME is resident and nonresident education conducted by Air University to develop professional qualities.

Professional Continuing Education-traditional resident instruction, on-site instruction, seminar presentation, correspondence course presentation, and workshops that relates to a profession.

Technical Training-technical training is skill-oriented training conducted in residence at a specified technical training school or through On-the-Job Training (OJT).

Supply Management Option: The particular AFIT option which provides education in the theory and principles of supply management to supply officers.

Supply Management Option Subpopulation-supply officers who graduated from the AFIT supply management option.

Non-supply Management Option Subpopulation-supply officers who graduated from AFIT options other than the supply management option.

II. Literature Review

This chapter reviews current literature on educational programs and course evaluation techniques. It also reviews past theses concerned with evaluations of AFIT programs with the purpose of focusing the effort of this thesis.

Educational Effectiveness

Educational effectiveness is a term not easily defined. It is a term that takes on different definitions depending upon the conditions and circumstances of its use. Using the traditional dictionary definition, effectiveness is "concerned in, or having the functions of producing effect; producing a decided or decisive effect; equipped, for, and ready for service." Synonyms for the word are active, capable, competent, and adequate (28).

In this thesis, effectiveness of educational programs will be reviewed in terms of educational programs and quality. Educational programs were researched because it was found that types of educational programs determined the methods used to evaluate those programs. Quality, on the other hand, was consistently linked with effectiveness. Therefore, before the effectiveness of the AFIT program could be evaluated, a method of evaluation had to be determined and the subjective aspects of quality and effectiveness delineated.

Evaluating Educational Programs

Robert M. Gagne and Leslie Briggs discussed methods which evaluated instructional design, student performance and other

facets of instruction (13). Two methods Gagne and Briggs discussed were formative and summative evaluation techniques. Both of these techniques are used in the Air Force for evaluating educational programs. The formative method is used predominately in the technical training evaluation process because it is an iterative process. The formative method evaluates programs during their development. The summative process, on the other hand, evaluates an entire program for the "summed" effects of the program. Therefore, the difference between the formative and summative methods is actually based on the time in which they are used during program development. Summative and formative methods were analyzed in this thesis because both had potential attributes or characteristics that could be used in evaluating the AFIT program.

Formative Evaluation Technique

Gagne and Briggs define the formative evaluation technique as, "formative evaluations provide data on the basis of which to revise and improve the materials, the lesson plans, the performance tests, and indeed the entire instructional system" (13:37). Evidence of an instructional program's worth is needed to make decisions about how to revise the program while it is being developed (13:291). While this is an accepted method of evaluation, the purpose of this thesis is to evaluate the entire supply management option and its effectiveness. The formative method could be used in future research on the supply management option if it is found that a particular course needs

further examination. However, for the intent and purpose of this study, the summative method is more applicable.

Summative Evaluation Technique

The summative evaluation technique reviews programs as complete entities. According to Gagne and Briggs, "the evaluation is called summative because it is intended to obtain evidence about the summed effects of a set of lessons making up a larger unit of instruction" (13:293). Therefore, the summative evaluation is concerned with the effectiveness of an instructional system, course, or topic" (13:293). These characteristics form the basic principles to be used in this thesis.

The summative evaluation technique will be modified in this thesis because effectiveness, as defined in this work, is concerned with the transfer of learning. The objectives of the individual courses are not the primary concern. The net effect of the courses upon the graduates and their ability to apply what they learned to their job is the key focus. As indicated, the evidence sought in a summative evaluation is learning outcomes (13:294).

As previously stated, the principle objective of this thesis is to measure the effectiveness of the supply management option. That objective will be met by analyzing feedback from the graduates on use of their education in the performance of their duties. Therefore, the net effect of the skills, techniques and processes learned at AFIT is the focus of

measurement. This is consistent with the summative evaluation technique. Areas such as intellectual skills, problem-solving ability, attitudes, information, and motor skills can be measured (13:294). These areas closely resemble parts of the current AFIT Graduate Evaluation program. The perceived usefulness of these educational outcomes by graduates forms a baseline from which to proceed to evaluate the supply management option. The evaluation of the supply management option will measure the effectiveness of the program.

Quality and Effectiveness Perspectives

There are many ways to view quality and effectiveness. This section reviews perspectives and opinions of experts dealing with the issues of quality and effectiveness in educational programs.

In reviewing aspects of quality, several different perspectives were found. Alexander Astin reviewed what he termed traditional approaches to measuring quality in education. These approaches were: the nihilist view, reputational measures, resource measures, outcome measures, and value added measures (3:10). He stated a high quality institution: knows what is happening to its students; gives both the faculty members and administrators clear-cut opportunities to develop their academic skills under minimally threatening conditions; and has a system of measurement and

feedback on student development that enables it to make appropriate adjustments in program or policies when the need for change or improvement is indicated (3:15).

The goals set for a quality institution are important to a graduate school. AFIT fulfills what Astin termed quality in that it has an established program for each of the three characteristics of a high quality institution (2).

In another article, "Queueing Up for Quality: The Politics of Graduate Programming," Tucker and Mantz described the nature of quality with a quote from a Supreme Court Justice who said, "the concept of 'quality' in education shares at least one characteristic with pornography--it has no agreed upon definition" (27:11). Tucker and Mantz focused on the problem of instituting graduate programs in a university environment and the elusiveness of the term quality in assessing a program and the associated politics.

> A denial of a program is always subject to rebuttal on the basis of denial of quality. If quality can not be defined with precision, who can rebut an argument that a denial of a program is a denial of an essential ingredient in the building of a quality institution. (27:14)

Furthermore, the Committee on an "Assessment of Quality-Related Characteristics of Research-Doctorate Programs in the United States" addressed the difficulty in defining quality. Cited in their report:

> Quality...you know what it is yet you don't know what it is . But that's self-contradictory. But some things are better than others, that is, they have more quality. But when you try to say what quality is, apart from the things that have it, it all goes poof! There's nothing to talk about. But if you can't say what quality is, how do you know that it even exists? If no one knows what it is, then for all practical purposes it doesn't exist at all. But for all practical purposes it really does exist. What else are the grades based on? Why else would people pay fortunes for some things and throw others in the trash pile? Obviously some things are better than others...but what's the "betterness'?...So round and round you go, spinning mental wheels and nowhere finding anyplace to get traction. What the hell is quality? What is it? (1:13)

Kirkwood (1985) wrote an article on quality in graduate education in which he stated "one of the persistent criticisms leveled at graduate schools is that they neglect outcome studies" (18:5). He said that "educational quality has no universal definition, in part, because we consider education in terms of aspiration as well as of excellence" (18:6). He quoted Carl Becker in the article who said, "It is important every so often to look at the things that go without saying to be sure tney are still going" (18:7). Program feedback and constant surveillance are means of ensuring that a program is doing what we think it is doing.

An article on an evaluation at the University of Houston focused on five indicators for review. Two of the indicators were "quality of instruction and learning" and "program value

or uniqueness" (7:144,145). The quality of instruction and learning were assessed "by current students and recent graduates" and "faculty advising and reward systems that support instruction" (7:144). The program value/or uniqueness was measured by "new knowledge/applications/development of skilled practitioners, the value to society of graduates, and the productivity and recognition of graduates" (7:145). These two indicators were of interest because they related directly to the objective of this thesis - the effectiveness of the supply management option. This effectiveness will be based on the perceptions of the graduates, their responses to the survey and how they perceive the usefulness of their education in the performance of their duties.

Richard Millard discussed four definitions of quality in his article "Assessing the Quality of Innovative Graduate Programs" First he discussed the nondefinition aspect of quality already presented (21:41-42). His second definition of quality stated that quality "relies on a social consensus and takes the democratic aspects of the first definition seriously" (21:42). The definition of quality is "what all people, or most people, or knowledgable people agree upon" (21:42). The third definition he presented was "essentially the Platonic idea of the Good" (21:42). He finds fault with this definition in that "one tends to look for the quantitative process characteristics of that 'best' institution and apply them across the board regardless of other institutions mission or

circumstances" (21:43). His fourth definition stated that "the quality of an educational institution or program is a function of its effective utilization of resources to achieve appropriate educational objectives" (21:42-43). Millard's article delineates how clearly defined objectives for a program are necessary before a quality assessment can take place (21:43). Thus, by clearly defining the objectives of the supply management option and comparing them to the results of the survey, the effectiveness of the supply management option can be determined.

Millard also discussed the relationship between program objectives and institution objectives. "Are the graduate programs an integral part of the total institutional mission, or are they add-ons for whatever reason - income, prestige, expediency, political pressure, and so on" (21:45)? Another side of the same argument is brought up when he stated:

> Institutions that establish graduate programs due to external pressure of a professional group, or a particular clientele(sic), or due to the temporary availability of special funding - programs that involve objectives not in harmony with the total institutional mission - may find not only their program support and quality in jeopardy but also that program continuance constitutes a threat to the integrity and quality of the institution itself. (21:46)

The relationship between Millard's point on institution objectives and this thesis effort is that the supply management option should be an integral part of the AFIT program and not a reflection of an outside influence.

Hence, there are two points from Millard's article which are important to this thesis. The first is that a program should have clear objectives. The second is that the objectives should be in consonance with the program and institution. The evaluation of the supply management option's effectiveness will be measured against the objectives AFIT has established as an institution for the supply management option and how the results of meeting those objectives are serving the needs of the graduates in the field. This is the key difference in the way technical training is measured from the method used to evaluate graduate education. Technical training has specific criterion objectives and specific tasks which can be measured at the end of a block of instruction or course in very specific terms and conditions. Education is a development process and measuring the benefits of that process is different than assessing one's ability to drive a truck.

Robert Ebel wrote an article on reforms in public education. He had what he called three radical proposals, the first of which was a call "for evidence that an educational program is effective in producing learning" (11:375). He discussed that in the wealth of plans to improve education "almost always the emphasis is on the attractiveness of the process" (11:375). He stated that "the prevailing assumption is that, if the process looks good, the product will also be good" (11:375). He then entered into the issue of the availability of evidence which is also an important aspect of this thesis. He stated:

> If evidence on the effectiveness of an instructional program can be obtained, it should be provided. But can it be? Are not some of the outcomes of instruction subtle and intangible? Are not some unforeseen? Are not some too complex too be measured by the usual means? Are not some apparent only after years of experience and maturity? To this host of questions there is a host of answers. No important outcome of instruction is intangible. To be important, it must make an observable difference in behavior. If it does, it can not be intangible. If it does, it is measurable, because all that measurement requires, fundamentally, is the observation of differences. (11:375)

Ebel's article parallels a major point of this thesis in measuring the difference in behavior of the graduates of the supply option. Thus, to find a means of measuring the effectiveness of the program is also a means of measuring the benefit graduates received from the program.

An article in the Annual Review of Psychology discussed the transfer of learning:

> Considering the importance of positive transfer for effective training in organizations, it is distressing that so little theorizing and applied research has been done. One exception is continuing program of research by Baumgartel and his associates (Baumgartel et al 1978) on the nature of those factors which facilitate the adoption of new concepts and practices following management development programs. (29:532)

This idea of the transfer of learning is important to this thesis. The transfer of learning by the supply option graduates from the supply option program to their jobs is one aspect of effectiveness that will be measured by the survey.

Effectiveness, as used in this thesis, will be a measure that will take into account many of the points reviewed in the articles. It will be a measure of the quality of the supply option. It will be reviewed in terms of the objectives of the AFIT program and the objectives of the supply option. The effectiveness measure will also look at the transfer of learning and the summed effects of the supply program on the graduates of the supply option. Effectiveness, then, will be a measure of the transfer of the skills, concepts, and techniques that the graduates of the supply option use in their jobs.

Air Force Institute of Technology Theses on Program Evaluations

This is not the first evaluation of an AFIT program as a thesis effort. Past evaluations have looked at various aspects of the graduate programs and the utility of these programs to the graduates.

Hart (1965) conducted a study of "the utilization of the education received, the extent to which the course objectives were met, and the evaluation of the curriculum" of the graduate logistics school (16:7).

Hart concluded :

> The Graduate Logistics Program is fulfilling the role, mission and objectives for which it was designed. It does provide an education selected logisticans and will "provide each student with the managerial tools both quantitative and qualitative necessary to solve complex logistics and weapons systems problems. (16:5)

His research, therefore, supported the concept and intent of AFIT's role.

In 1969, Mozzo and Martinez performed a study to "develop a general method or approach to use job information to determine education requirements for logistics officers" (22:63). Their recommendation emphasized the use of job analysis techniques in validating requirements for courses and job requirements in logistics (22:97).

Hale and Rooney (1971) performed a study to determine if there was a significant difference between the holders of a graduate degree from AFIT and those officers who had no graduate degree (15:11). Thirteen logistics utilization fields were targeted (15:14). These fields included the areas of Director of Material, Systems Program Management, Communications and Electronics, Missile, Avionics, Aircraft Maintenance, Munitions, Supply, Fuels, Supply Services, Procurement Management, and Logistics (15:11). The authors concluded "that the performance of graduates is superior to that of non-graduates on certain aspects of the managerial job" (15:4 . The aspects of the job where the graduates' performance was superior were in decision making, performance style, planning, communication, and general evaluation (15:40). As a result of this study, the benefits of a graduate education in logistics-related areas are more apparent. However, the degree to which the supply program option at AFIT is more useful than other program options for supply officers is a question which this thesis hopes to answer.

In 1979, Brown and Hollingsworth analyzed "the usefulness of the AFIT School of Systems and Logistics" (8:1). Their objective was "to determine the extent to which graduates have used the knowledge obtained from their graduate education in follow-on assignments" (8:10). They concluded: (1) that the promotion chances of the graduates were improved; (2) the program, overall, was useful; (3) the graduates perceived their supervisors as favorable to the educational program; and (4) the educational courses were useful (8:57). The last conclusion of the study was that the graduates felt that their assignments after graduation to be inappropriate (8:57). This conclusion, which is of note to this thesis, is that the graduates assigned to lower organizational levels perceived their assignments to be less appropriate than those assigned to higher level positions (8:57).

This last perception noted is important because AFIT does not see its mission as a training ground for the next assignment. One reason may be that overall benefits of the AFIT education may not be fully realized by the graduate for several years. Furthermore, for the AFIT program to be evaluated as "effective" it should be useful to more than one small group who obtained certain level assignments. If the program at AFIT is only beneficial to a limited number of people who obtained certain level or types of jobs, an argument could be made that AFIT is a training ground for certain jobs and is not beneficial to an entire career field.

The usefulness of the Contracting and Acquisition Management Program as perceived by the graduates was measured by Gillette and Wayne (14:10). Again, the results of the survey of graduates indicated that the graduates felt that their education was useful to them in the performance of their duties (14:107-108).

In June of 1980 a study was conducted by Johns and Ray comparing the usefulness of an AFIT program to similar programs provided by civilian institutions. The particular program of interest to them was the Facilities Management Program. The researchers found that the civilian institutions were providing "an equivalent education in the context of course content " (17:55). However, Johns and Ray also stated that the graduates of civilian institutions offering similar programs felt their program to be more useful than the AFIT graduates (17:57). The disadvantage that the civilian institutions had was their non-USAF orientation (17:58).

Mashburn (1984) conducted a study on the education and training of Marine Corps combat engineers. The methodology used in his thesis to gather data was of particular interest and formed a baseline for development of the methodology for this thesis. He performed a type of job inventory on combat engineers and evaluated their education and training in terms of the tasks they performed. The particular results of the study were not as important to this effort as the method employed to gather the data (19).

There are four points to be made as a result of reviewing AFIT theses. The review helped to focus this effort in determining a method of evaluating AFIT programs and suggests several things about AFIT programs. First, reviews of AFIT programs have value. Second, past theses have methodologies which can be, and are worth replicating. Third, there is more than one way to evaluate a program. And fourth, there is a demonstrated concern regarding the education programs in which Air Force officers participate.

Literature Review Summary

This literature review began with a review of the terms quality of education and effectiveness of education and a discussion of how elusive these terms are. Thoughts and opinions on the terms of quality and effectiveness were reviewed. The ochap3review set the framework within which the operational definition of educational effectiveness was derived for this thesis. Past evaluations of AFIT programs served to limit the scope of this work and prevent the duplication of work that has already been accomplished evaluating AFIT programs. Further, the literature review helped lay the foundation for the methodology to assess the effectiveness of the supply option. Finally, the literature review answered the key research questions: What is educational effectiveness? How can it be measured? What has been done in the past to evaluate AFIT programs?

III. Methodology

The purpose of this chapter is to outline the methodology used to gather empirical data necessary to test the research hypothesis and to answer the critical research question. This methodology is divided into four sections:

1. A discussion of the population
2. Justification of the survey approach
3. A discussion of the instrument
4. A review of the data collection plan

Each section will be explained along with its relation to the central research question as stated in Chapter I: "Is the supply management option at AFIT effective?" Note that the term "effective" has its own operational definition as used in relation to this study. The hypotheses to be tested are:

Ha: The graduates of the supply management option perceive the supply management option to be more useful in the performance of supply duties than supply officers who graduated form other options.

Ho: The graduates of the supply management option perceive the supply management option to be no more useful in the performance of supply duties than supply officers who graduated from other options.

The test of these hypotheses form the answer to the central research question.

Population

The total population of AFIT graduates is comprised of 28 supply officers who graduated from the AFIT supply management option and 140 supply officers who graduated from other AFIT options. The graduates of the supply management option are the subjects of particular interest. They are currently assigned as supply officers in various positions of management ranging from base level to Headquarters Air Force staff.

Justification of Survey Approach

A mail survey approach was selected to gather the data. The mail survey afforded the graduates time to think and reflect on their responses to the questions posed. Since the purpose was to measure the transfer of knowledge acquired at AFIT to their working environment (per operational definition of effectiveness), careful consideration of each question by the respondents was necessary. The large amount of data required made use of a telephone interview impractical (12:72). Since the subject officers are in assignments worldwide, individual interviews or methods other than a mail survey were not practical or possible (12:72).

Instrument

The survey instrument is provided in Appendix A. The dimensions of the instrument used in this thesis are intended to give the requisite insight into the effectiveness of the

supply management option and to provide data with which the effectiveness of the program can be measured.

A three-part survey instrument was developed to answer the topical research question. The survey was designed for this particular research project and for longitudinal studies. The survey was approved by AFIT. The Air Force Manpower and Personnel Center (AFMPC) provided the names and locations of the specific AFIT graduates (26).

Part I of the survey consists of questions relating to biographical data. This biographical data identified the function in which the officer is working, grade, time in the supply Air Force Specialty Code (AFSC), organizational level, and other pertinent data.

Part II of the survey was a modification of Lyman Porter's work on "Perceived Deficiencies in Need Fulfillment as a Function of Job Level" (24). Porter's study was to "investigate the differences in perceived deficiencies in need fulfillment at all levels of management from the first level supervisor to the presidential level" (24:376). He investigated "13 items classified into a Maslow-type need hierarchy system, i.e., security, social, esteem, autonomy, and self-actualization needs" (24:376). Through a systematic progression of questions, he was able to make a quantifiable determination of need satisfaction in these areas.

A form of his questioning technique was used in this survey. It was adapted by replacing Maslow's needs with the needs of a supply job. It measured how well graduate education was perceived to have served the needs of the graduates and thereby, quantified and measured need fulfillment.

The methodology to make the determination of perceived satisfaction by the graduates was a small modification of Lyman Porter's original work. The subject areas in this part of the survey were divided into three pairs of questions.

The first pair of questions under each subject asked the respondents to indicate: (1) how much time they spent doing that particular task and (2) how much time they should spend doing that task. The responses were scaled on a Likert scale response format of 1 to 5 (12:255-258).

The second pair of questions asked the respondents to indicate: (1) the importance of the task and (2) how important should the task be. As before, the responses were ranked on a Likert scale of 1 to 5.

The third pair of questions asked the respondents to: (1) rate their ability on the task and (2) rate how important education in this subject was to them. This was also ranked on a Likert scale of 1 to 5.

Part III of the survey was an adaptation of the AFIT Graduate survey (2:62-69). Given that in the second part of the survey the respondents indicated what jobs they

performed and the degree of satisfaction with those tasks, the purpose of the third part was to introduce specific aspects of their education into the evaluation. In the third part of the survey the graduates were asked to identify what concepts, skills, and techniques of their education they perceived they used in the performance of the supply tasks.

Data Collection Plan

A pilot test of the survey instrument was conducted. This was done to ensure that the survey was easily understood, reliable, and valid (4:211-221).

The survey packages were mailed to the graduates. The packages included a cover letter from the researcher, a description of the project, and the disposition of the responses to the survey (12:159).

Six weeks were allowed for the collection of the data and return of the surveys. The information was read into computer-based data files with the use of optical scan sheets. Programs were developed using the Statistical Analysis System (SAS) statistical package for the analysis of the data.

At least 50 per cent of the surveys needed to be returned for any representative data base to be established for analysis (4:165). The analysis of this data and the results derived are presented in Chapters IV and V of this thesis.

Data Analysis Plan

This section outlines the plan used to assemble the data into the proper form for analysis in Chapter IV.

The response sheets were divided into the two subpopulations of supply officers. The data were read into the computer as previously stated (Appendix B). Once the data were loaded as a data base, it was further divided to correspond to the three parts of the survey.

The data for each of the three parts of the survey were matched with a SAS program to perform the necessary computations.

Frequency charts were computed for questions 1-24 excluding questions 1 through 3 and 24 for reasons explained in Chapter IV, Survey Data Analysis, Part I. These frequency charts provided the proper data format for analysis. The data were transcribed to Tables 1 through 7. The analysis of this data is in Chapter IV.

Mean scores for the responses to questions 25-132 (Part II) of the survey were computed. The mean scores were cross-tabulated on Tables 8-25 by task.

Mean scores for questions 133-177 were computed and cross-tabulated on Tables 26-40.

From Part II of the survey responses, mean scores were cross-tabulated for the first pair of responses concerning "how much time..." and "how much time should...." The difference of the mean scores was calculated.

Mean scores were cross-tabulated on "how well did graduate..." and "how much should your graduate...". Again, the difference of mean scores was calculated.

The same procedure was followed for the third pair of questions to this part of the survey responses.

Once the mean scores and differences for each of the subpopulations were cross-tabulated, the differences between the two subpopulations were calculated. This calculated value was recorded in the "diff" column. The "diff" value between the two populations was the score used for the Wilcoxon statistical test.

For Part III of the survey responses, the mean scores were cross-tabulated for each of the questions. The two "ability" questions were "paired" together and differences of mean scores were calculated. Differences of mean scores on the educational experiences were calculated between the two subpopulations.

Statistical Tests

A Wilcoxon signed-rank test was used in this study. This test was used because it is a nonparametric test from which inference can be made without "modeling a population in terms of a specfic parametric form of density curves, such as normal distributions" (6:505). "In testing hypotheses, nonparametric test statistics typically utilize some simple aspects of the sample data such as the signs of the measurements, order relationships, or category

frequencies" (6:505). Since the data to be analyzed will be the differences of mean scores, the the Wilcoxon test is most applicable. Given two samples of size m and n, m < n, "the Wilcoxon rank sum test is used to test the hypothesis that two samples are from populations with the same mean" (5:409).

A critical level of .05 for a two-sided test was used to attain a confidence level of 95 per cent.

Summary

Chapter III described the method used to analyze the population and to test the hypotheses. It justified the use of the survey method, the specific instrument used, the data collection and analysis plans, and the statistical tests applied to the data. Chapter IV is an analysis of the data.

IV. Data Analysis

This chapter contains the analysis of the responses to the survey. This analysis was conducted in accordance with the methodology outlined and explained in Chapter III of this study. The data were analyzed and tabulated following the sequence of the survey; Part I, Part II, and Part III.

Survey Instrument Responses

There were 168 supply officers surveyed for this study. All graduated from AFIT; 140 graduated from options other than the supply management option and 28 graduated from the supply management option. A response rate of 61.3 per cent was achieved with 104 of 168 graduates responding to the survey. The supply management option subpopulation was 9.3 per cent of the response rate while the balance was the non-supply option subpopulation.

Method of Analysis

Data obtained from Part I of the survey were tabulated into seven tables. The tables indicate the frequency of responses to the questions. This data was used as population background information to be compared with the responses from the remaining two parts of the survey. This comparison allowed the researcher to determine if items such as rank, time in service, job level, etc., could have influenced the responses to the questions in the two remaining parts of the survey.

Analysis of Part II data was a modification of the method used by Lyman Porter (24:378). Porter subtracted the values of one question from the value of the next question and then formulated mean scores for each group in his sample population (24:378).

In this study, the mean scores for all responses in Part II of the survey were cross-tabulated in Tables 8-25. These mean scores were then calculated in accordance with the method specified in Chapter III.

Initial review of the data was based on identifying areas where there was more than a .5 value difference between the mean scores to the questions. The selection of the .5 value was an arbitrary one. The purpose was to find areas of agreement and difference between the two populations of supply officers and their perceptions of the graduate program. A differentation of .5 served that purpose.

Analysis of Part III followed the same method used in Part II with the mean scores of the responses being subtracted from each other. The same value of .5 was used to determine areas of marked difference.

Survey Data Analysis

Part I. The data in Part I of the survey allowed for differentiation of the two subpopulations of supply officers. The data are found in Tables 1-7. Questions 1 through 3 and question 24 were not analyzed. Questions 1 through 3 pertained to the Air Force Specialty Code (AFSC) of the

graduates. Question 24 indicated which year the respondents graduated from AFIT. This data was deemed not relevant or critical to the outcome of the study at this time.

Other data in Part I provided biographical information about the two subpopulations. The biographical data allows numerical descriptions of the two subpopulations used in the analysis. Factors which may have influenced the responses to the other parts of the survey are then more readily discernable.

Present Rank. The rank distribution for the two subpopulations is tabulated in Table 1. The composition of the non-supply option subpopulation is approximately 68 per cent field grade officers. This is in contrast to the 18 per cent in the supply management option subpopulation. Since the supply management option is relatively new and officers generally attend AFIT early in their careers, it could be expected that most of the supply option subpopulation would represent a distribution of officers of lower rank and less experience. Further, this difference in rank structure could be expected to influence responses to survey questions in which experience and career "maturity" is a major factor. For example, questions regarding planning and programming or command and supervision could be affected by the difference in rank.

In addition, the more senior the rank, the more likely there has been a time period since graduation from AFIT to use

the skills, concepts and techniques learned at AFIT. Given more time and assignments, the opportunities to use the AFIT education could be expected to increase. This, again, could influence the responses to the remaining survey questions.

Table 1

The Rank Currently Held by Supply Officers in Each Subpopulation (frequency of response)

Rank	Non-Supply Option	Supply Option
2Lt	Ø	Ø
1Lt	Ø	Ø
Capt	29	11
Maj	35	2
Lt Col	27	Ø
Col	Ø	Ø
Total	91	13

Major Command or Agency. Questions 6 through 8 asked the respondents to identify which command or agency within the Department of Defense (DOD) they presently work. The data in Tables 2 and 3 give the distribution of these commands and agencies. Commands and agencies such as the Air Force Logistics Management Center (AFLMC) and the Air Force Data Systems Design Center (AFDSDC) could afford the graduates more opportunities to use their AFIT education on a regular basis (26). The nature of the work in these organizations,ie, research and program development, could permit a greater

Table 2

Major Command or Agency to which Non-Supply Option Graduates are Currently Assigned

Q 6	Alaskan Air Command	United States Air Force Academy	United States Air Forces, Europe	Air Force Logistics Command	Air Force Systems Command	Air Training Command	Headquarters, United States Air Force
	1	1	5	17	2	7	4
Q 7	Military Airlift Command	Pacific Air Forces	Strategic Air Command	Tactical Air Command	Electronic Services Command	Air Force Communications Command	Air Force Reserves
	8	7	7	6	0	4	0
Q 8	Space Command	North Atlantic Treaty Organization	Defense Logistics Agency	Air Force Data Systems Design Center	Air Force Logistics Command	Military Assistance Advisory Group	Other
	2	0	2	1	2	2	10

Table 3

Major Command or Agency to which Supply Option Graduates are Currently Assigned

Q 6	Alaskan Air Command	United States Air Force Academy	United States Air Forces, Europe	Air Force Logistics Command	Air Force Systems Command	Air Training Command	Headquarters, United States Air Force
	0	0	1	3	0	0	0
Q 7	Military Airlift Command	Pacific Air Forces	Strategic Air Command	Tactical Air Command	Electronic Services Command	Air Force Communications Command	Air Force Reserves
	1	1	2	3	0	0	0
Q 8	Space Command	North Atlantic Treaty Organization	Defense Logistics Agency	Air Force Data Systems Design Center	Air Force Logistics Command	Military Assistance Advisory Group	Other
	0	0	0	0	0	0	0

utilization of education. This command data coupled with the organizational level data from questions 15-23 gives a distribution of types of assignments of the graduates.

Present Job and Home Base. The answers to questions 9 and 10 are summarized in Table 4. These data illustrate how long the respondents have been assigned to their present jobs (question 9) and how long the respondents have been assigned to their present home bases (question 10). In the non-supply option subpopulation, six officers indicated they have been in their present jobs over three years and six have been at their present home base over four years. At the same time, the entire supply management option subpopulation indicates less than two years in their present job and at their home base.

The data gathered from questions 9 and 10 indicate comparative stability and "maturity" in current positions held by the non-supply option subpopulation. This could influence the responses to questions in Parts II and III of the survey. Stability in a job could improve the ability of the incumbent to perform long-range planning and exercise more control over the activities of the organization. Job stability could also afford more opportunities to analyze complex problems. Therefore, time in the current job was a consideration in the analysis of the other data gathered.

Years in Career Field, Years of Commission Service, Years of Active Service. Table 5 indicated the distribution of the two subpopulations responses to questions 11, 12, and 13.

Table 4

Years Respondents Have In Present Job
and at Present Home Base
(frequency of response)

	(Question 9) In Present Job		(Question 10) At Present Home Base	
	Non-Supply Option	Supply Option	Non-Supply Option	Supply Option
Years				
Less than 1	44	9	33	7
More than 1 Less than 2	24	4	26	6
More than 2 Less than 3	16	Ø	2Ø	Ø
More than 3 Less than 4	3	Ø	6	Ø
More than 4 Less than 5	1	Ø	3	Ø
More than 5 Less than 6	1	Ø	2	Ø
More than 6	1	Ø	1	Ø
Total	9Ø*	13	91	13

*Only 9Ø of the 91 respondents replied to this question.

Table 5

Frequency of Respondents Years in Supply Career Field, Active Commissioned Service, and Years of Active Service

	(Question 11) In Supply Career Field		(Question 12) Active Commissioned Service		(Question 13) Active Military Service	
	Non-Supply Option	Supply Option	Non-Supply Option	Supply Option	Non-Supply Option	Supply Option
Years						
Less than 3	8	3	Ø	Ø	Ø	Ø
More than 3 Less than 6	5	4	3	3	2	3
More than 6 Less than 9	18	3	17	5	9	4
More than 9 Less than 12	17	3	17	3	12	3
More than 12 Less than 15	11	Ø	13	2	11	3
More than 15 Less than 18	18	Ø	2Ø	Ø	23	Ø
More than 18	13	Ø	2Ø	Ø	34	Ø
Total	9Ø*	13	9Ø*	13	91	13

*Only 9Ø of the 91 respondents replied to this question.

These questions requested data on the time the officers have been in the supply career field, active commissioned service, and active military service time.

The non-supply option subpopulation indicated that more than 46 per cent of the respondents had more than 12 years in the supply career field. There are no supply management option subpopulation members that had more than 12 years in the career field.

In all areas considered by these questions, the non-supply option subpopulation indicated more years in the career field, commissioned time, and time in service. Again, this could influence the results to questions in the other parts of the survey. This influence could be the result of the career maturity and longevity shared by the non-supply option subpopulation over the supply management option subpopulation.

Influence Formal Education Has Had in Present Job Since Entering the Service. This question, tabulated in Table 6, was designed to determine if formal education, since the respondents entry into the service, had been useful to them in their present job. This was an overall assessment of their perceptions of formal education and the manner in which it has influenced their performance at their present job.

The responses indicated that 89 per cent of the non-supply option subpopulation perceived a moderate to large extent of influence. The supply management option subpopulation results indicated 92 per cent also perceived a moderate to large extent of influence.

Table 6

Influence on Present Job of Formal Education Completed Since Entering Service
(frequency of responses to Question 14)

Degree of Influence	Non-Supply Option	Supply Option
None completed	0	0
Not at all	0	0
Small extent	10	1
Moderate extent	42	10
Large extent	39	2
Total	91	13

Organizational Level of Present Job. Questions 15-23 asked the respondent to indicate which level, from the detachment level to HQ USAF level, the respondent is currently working. The distribution of this data is presented in Table 7. The non-supply option subpopulation indicated more organizational level assignments at the Major Command (MAJCOM) level than the supply management option subpopulation. These higher organizational levels could influence the responses to questions. These organizational levels could present more opportunities for the subpopulation to use their AFIT education. Areas such as analyzing complex problems, planning and programming, supervision, etc., could have more practical application at higher levels in the organizational structure. The numbers do not total to the full population number of 91 because some respondents did not answer the question.

Table 7

Organizational Level of Current Assignment
(Frequency of response to Questions 15-23)

Ques No.	Organizational Level	Non-Supply Option	Supply Option
15.	Detachment or Operating Location	1	2
16.	Squadron, Separate Operating Activity or Equivalent	23	5
17.	Group or Equivalent	Ø	Ø
18.	Wing or Equivalent	6	Ø
19.	Numbered Air Force, Major Command Intermediate Headquarters or Equivalent	Ø	Ø
20.	Major Command or Equivalent	27	3
21.	Unified Command, Specified Command, Joint Service, or Equivalent	9	Ø
22.	DOD or Headquarters Air Force	6	2
23.	Other Level	5	1
	Total	77*	13

*Only 77 of 91 respondents replied to this question.

Part II. The data from Part II of the survey results were divided into the subpopulations and analyzed. Tables 8-25 contain the tabulated responses to each of the six questions in each task area. The tables indicate the differences of the responses between the two subpopulations and the differences within each of the subpopulations. The differences between the mean scores of the responses were analyzed in accordance with the methodology previously described.

Administration and Management (Table 8). Both the supply management option subpopulation and the non-supply option subpopulation indicated they should be spending less time performing administration and management duties than they are currently spending. However, both groups perceived this to be an important task that should require more than an average amount of time. This perception is indicated by the rankings higher than 4 on a scale with a mean of 3.

Both subpopulations also felt that their graduate education should have better prepared them to perform this task. Furthermore, both groups indicated that education on the task was less important than the task itself. The non-supply option subpopulation did perceive that graduate education and graduate education preparation on this task was slightly more important than the supply management option subpopulation.

Table 8

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Administration and Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	4.307	4.197	.11
How much time should you be spending on this task?	4.076	4.076	-0-
Difference of mean scores within each option:	-.231	-.121	-.11
How well did your graduate education prepare you to perform this task?	3.000	3.233	-.233
How much should your graduate education have prepared you to perform this task?	3.230	3.417	-.187
Difference of mean scores within each option:	.230	.184	.046
How important is this task to you in your job?	4.461	4.292	.169
How important is education on this task to you in your job?	3.692	3.593	.099
Difference of mean scores within each option:	-.769	-.699	-.07

Both subpopulations perceived this to be an important task. Both groups ranked it above 4 on a 5 point scale. both subpopulations also perceived that education on the task was important, but not as important as the task in their present jobs.

The two subpopulations ranked the educational aspects of administration and management lower than the importance and time spent on the task. This could indicate that education/training for this task is gained through sources other than AFIT graduate education. These other sources could include PME, technical training, or on-the-job training.

Storage and Distribution (Table 9). Little importance was placed on this area in relation to other areas evaluated as indicated by the relatively low rankings. In general, however, there was a difference in perception by the two subpopulations on the task. In every category, the subpopulation of non-supply option indicated a higher ranking than the supply management option subpopulation. In particular, the mean rankings of the non-supply option subpopulation were higher than the supply management option subpopulation rankings in the areas of "how well did your graduate education prepare you to perform this task?" and "how much should your graduated education have prepared you to perform this task?" No explanation for this difference could be discerned from the data given.

Table 9

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Storage and Distribution

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.307	1.581	-.274
How much time should you be spending on this task?	1.384	1.579	-.195
Difference of mean scores within each option:	.077	-.002	.079
How well did your graduate education prepare you to perform this task?	1.538	2.244	-.706
How much should your graduate education have prepared you to perform this task?	1.846	2.655	-.809
Difference of mean scores within each option:	.308	.411	-.103
How important is this task to you in your job?	1.538	1.651	-.113
How important is education on this task to you in your job?	1.923	2.022	-.099
Difference of mean scores within each option:	.385	.371	.014

Inventory Management (Table 10). This area was of sparticular importance since there is a specific course on inventory management within the supply management option. However, both subpopulations ranked the graduate education preparation to perform this task below the middle score of 3. At the same time, the perception of both subpopulations was that graduate education should have better prepared them to perform the task of inventory management.

Within the supply management option subpopulation, the large difference in mean rankings between "how well graduate education perpared them" and "how much graduate education should have prepared them" is indicative of a strong need deficiency. The supply management option subpopulation perceives a need for better graduate education on this task.

Customer Interface (Table 11). Within the supply management option subpopulation, there was a perceived deficiency between "how well graduate education prepared them to perform the task" and "how much it should have prepared them to perform the task." This need may be a function of the rank structure of the supply management option subpopulation and the job levels to which they are assigned. The lower job levels, conceivably, could have more contact with customers than the upper level positions held by the non-supply option subpopulation. This analysis is supported by the biographical data in Part I.

Table 10

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Inventory Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.384	2.418	-.034
How much time should you be spending on this task?	2.307	2.465	-.158
Difference of mean scores within each option:	-.077	.047	-.124
How well did your graduate education prepare you to perform this task?	2.461	2.744	-.283
How much should your graduate education have prepared you to perform this task?	3.230	3.151	.079
Difference of mean scores within each option:	.769	.407	.362
How important is this task to you in your job?	2.923	2.620	.303
How important is education on this task to you in your job?	3.000	2.820	.180
Difference of mean scores within each option:	.077	.200	-.123

Table 11

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Customer Interface

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.461	2.397	.064
How much time should you be spending on this task?	2.538	2.443	.095
Difference of mean scores within each option:	.077	.046	.031
How well did your graduate education prepare you to perform this task?	1.769	2.080	-.311
How much should your graduate education have prepared you to perform this task?	2.307	2.494	-.187
Difference of mean scores within each option:	.538	.414	.124
How important is this task to you in your job?	2.692	2.636	.056
How important is education on this task to you in your job?	2.692	2.310	.382
Difference of mean scores within each option:	-0-	-.326	.326

Planning and Programming (Table 12). Scores were centrally located on the 5 point scale with no differences greater than the .5 level established for evaluation. However, in reviewing the two subpopulations rankings, the non-supply option graduates spent more time performing planning and programming than the supply management option graduates. However, the supply management option subpopulation indicated they should spend more time on this task.

Both subpopulations perceived a slight deficiency between "how well their graduate education prepared them to perform this task" and "how much it should have prepared them to perform the task." The higher rankings given by the non-supply management option graduates could be attributed to their higher rank structure, longer time in service, and higher level jobs as indicated in the Part I data. It is reasonable to expect that higher level positions would entail a greater amount of planning and programming than the lower level jobs. Both groups reported the task was as important as education on the task.

Materiel Control/Unit Supply (Table 13). The overall rankings given to this task were below the middle rank of 3 with no large differences in perceptions between the two subpopulations. This response could be expected when reviewing the duties which comprise this task and the rank structure of both subpopulations. This task would not normally be performed by officers of the rank structure

Table 12

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Planning and Programming

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.923	3.344	-.421
How much time should you be spending on this task?	3.153	3.366	-.213
Difference of mean scores within each option:	.230	.022	.208
How well did your graduate education prepare you to perform this task?	2.846	3.200	-.354
How much should your graduate education have prepared you to perform this task?	3.230	3.588	-.358
Difference of mean scores within each option:	.384	.388	-.004
How important is this task to you in your job?	3.307	3.677	-.37
How important is education on this task to you in your job?	3.692	3.617	.075
Difference of mean scores within each option:	.385	-.06	.445

Table 13

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Materiel Control and Unit Supply

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.384	1.534	-.15
How much time should you be spending on this task?	1.384	1.558	-.174
Difference of mean scores within each option:	-0-	.024	-.204
How well did your graduate education prepare you to perform this task?	1.615	1.709	-.094
How much should your graduate education have prepared you to perform this task?	2.000	2.023	-.023
Difference of mean scores within each option:	.385	.314	.071
How important is this task to you in your job?	1.538	1.602	-.064
How important is education on this task to you in your job?	2.000	1.704	.296
Difference of mean scores within each option:	.462	.102	.36

indicated by the two subpopulations in the analysis of Part I. As a result, graduate education on this task was rated low. Materiel Control/Unit Supply is more likely to be a part of technical training rather than part of a graduate education program. The importance of the task to the subpopulations in their daily jobs was also rated low. Graduate education was not perceived as important in the preparation to accomplish the task.

Equipment Management (Table 14). The two subpopulations indicated no strong perceived differences in the tasking area of equipment management. The low rankings could indicate that few members of the subpopulations perform the task or that the task requires relatively little time to perform. It was ranked low in time spent performing the task, graduate education preparation, and importance of the task. There were no large differences noted between the two populations in their perceptions on equipment management.

Command and Supervision (Table 15). The non-supply option subpopulation members are more senior in rank and in higher level positions. It could, therefore, be expected the non-supply option subpopulation would put more emphasis on this area. The non-supply option subpopulation indicated more time spent on the task. Further, they perceived their graduate education better prepared them than the supply management option subpopulation. The non-supply option subpopulation also perceived that graduate education should

Table 14

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Equipment Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.461	1.895	-.434
How much time should you be spending on this task?	1.461	1.863	-.402
Difference of mean scores within each option:	-0-	-.032	.032
How well did your graduate education prepare you to perform this task?	1.307	1.686	-.379
How much should your graduate education have prepared you to perform this task?	1.615	1.977	-.362
Difference of mean scores within each option:	.308	.291	.017
How important is this task to you in your job?	1.416	1.895	-.434
How important is education on this task to you in your job?	1.769	1.943	-.174
Difference of mean scores within each option:	.308	.048	.26

Table 15

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Command and Supervision

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.307	2.886	-.579
How much time should you be spending on this task?	2.000	2.850	-.85
Difference of mean scores within each option:	-.307	-.036	-.271
How well did your graduate education prepare you to perform this task?	1.923	2.325	-.402
How much should your graduate education have prepared you to perform this task?	2.076	2.784	-.708
Difference of mean scores within each option:	.153	.459	-.306
How important is this task to you in your job?	2.307	3.058	-.751
How important is education on this task to you in your job?	2.846	2.862	-.016
Difference of mean scores within each option:	.539	-.196	.735

have given them more preparation in this area and that graduate education on this task was important. The non-supply option graduate subpopulation also indicated that this task was more important to them in their job than the supply management option subpopulation.

The supply management option subpopulation did not have as strong a perception on command and supervision. They indicated that education on this task was as important as the non-supply option subpopulation. However, the supply management option subpopulation ranked the time performing the task lower than the other subpopulation. They also indicated that the task was less important than the non-supply option subpopulation.

Computer Systems (Table 16). The non-supply option subpopulation, overall, spent more time on this task than the supply management option subpopulation. Further, the non-supply option subpopulation perceived a need for more graduate education on this task and that this education was important. This perceived need for more education on this task could be due to the requirements of tasks such as planning and programming. For these tasks, computer skills could be perceived as more beneficial. Level of assignment could also influence the data in that a higher level job may require more use of computer skills in planning and programming.

Table 16

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Computer Systems

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.153	2.674	-.521
How much time should you be spending on tnis task?	2.384	2.775	-.0391
Difference of mean scores within each option:	.231	.101	.481
How well did your graduate education prepare you to perform this task?	3 384	2.965	.419
How much should your graduate education have prepared you to perform tnis task?	3.384	3.563	-.179
Difference of mean scores within each option:	-0-	.598	-.598
How important is this task to you in your job?	2.461	2.988	-.527
How important is education on this task to you in your job?	3.307	3.367	-.06
Difference of mean scores within each option:	.846	.379	.467

The supply management option subpopulation indicated that education on this task was more important to them in their job than the importance of the task itself. This could indicate a stronger need for knowledge of computer systems than direct application of computer skills on the job. This subpopulation also indicated the their graduate education better prepared them to perform this task than the non-supply option subpopulation. They also perceived education on this task was important.

Both of the subpopulations perceived that graduate education on this task was important.

Project and Program Management (Table 17). In all areas under this subject, the non-supply option subpopulation indicated more time, greater importance, and the need for more education in this area. All scores except one exceeded the .5 evaluation level over the scores given by the supply management option subpopulation. This finding could be expected due to the grade and job level of the non-supply option subpopulation. The higher level positions and grade structure may demand more of the members in project and program management than the job levels of the supply management option subpopulation.

Contract Interface (Table 18). The non-supply option subpopulation indicated that more time was spent in this area than the supply management option subpopulation. Further, the non-supply subpopulation also perceived that the

Table 17

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Project and Program Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.153	2.922	-.769
How much time should you be spending on this task?	2.230	2.922	-.692
Difference of mean scores within each option:	.077	-0-	.077
How well did your graduate education prepare you to perform this task?	2.615	2.966	-.351
How much should your graduate education have prepared you to perform this task?	2.538	3.200	-.662
Difference of mean scores within each option:	-.077	.234	-.311
How important is this task to you in your job?	2.384	3.100	-.716
How important is education on this task to you in your job?	2.615	3.188	-.573
Difference of mean scores within each option:	.231	.088	.143

Table 18

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Contract Interface

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.461	2:159	-.698
How much time should you be spending on this task?	1.615	2.113	-.498
Difference of mean scores within each option:	.154	-.046	.200
How well did your graduate education prepare you to perform this task?	2.307	2.363	-.056
How much should your graduate education have prepared you to perform this task?	2.615	2.738	-.123
Difference of mean scores within each option:	.308	.375	-.067
How important is this task to you in your job?	1.769	2.272	-.503
How important is education on this task to you in your job?	2.076	2.511	-.435
Difference of mean scores within each option:	.307	.239	.068

task was more important to them than the supply management option subpopulation. Contract interface could be expected to be performed more often by senior ranking officers.

Contingency, Mobility, and Exercise (Table 19). The supply management option subpopulation spent more time on this task than the non-supoply option subpopulation. As a result they perceived that the task was more important in their daily job than the non-supply option subpopulation. The supply management option subpopulation perceived that education for this task was less important than the task in the performance of the duties described in Part II of the survey. Given the rank structure of the supply management option subpopulation, it could be expected that they spend more time doing the task than more senior officers.

Resource Management (Table 20). In the areas of "how well graduate education prepared them to perform this task" and "how much it should have prepared them to perform this task", the non-supply option subpopulation perceived a higher need than the supply management option subpopulation. Resource management could be a more critical factor at higher level positions and rank. As a result, education in the management of resources and related areas would be more desirable.

Fuels Management (Table 21). The supply management option subpopulation ranked this area higher than the non-supply option subpopulation. A possible explanation for this

Table 19

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Contingency, Mobility, and Exercise

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.846	2.204	.642
How much time should you be spending on this task?	2.846	2.227	.619
Difference of mean scores within each option:	-0-	.023	-.023
How well did your graduate education prepare you to perform this task?	1.769	1.865	-.096
How much should your graduate education have prepared you to perform this task?	2.230	2.359	-.129
Difference of mean scores within each option:	.461	.494	-.033
How important is this task to you in your job?	3.307	2.500	.807
How important is education on this task to you in your job?	2.692	2.292	.400
Difference of mean scores within each option:	-.615	-.208	-.407

Table 20

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Resource Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.769	3.123	-.354
How much time should you be spending on this task?	2.846	3.057	-.211
Difference of mean scores within each option:	.077	-.066	.143
How well did your graduate education prepare you to perform this task?	2.384	2.977	-.593
How much should your graduate education have prepared you to perform this task?	2.461	3.310	-.849
Difference of mean scores within each option:	.077	.333	-.256
How important is this task to you in your job?	2.923	3.179	-.256
How important is education on this task to you in your job?	3.153	3.280	-.127
Difference of mean scores within each option:	.230	.101	.129

Table 21

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Fuels Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.923	1.488	.435
How much time should you be spending on this task?	1.923	1.477	.446
Difference of mean scores within each option:	-0-	-.011	.011
How well did your graduate education prepare you to perform this task?	1.538	1.420	.118
How much should your graduate education have prepared you to perform this task?	1.615	1.829	-.214
Difference of mean scores within each option:	.077	.409	-.332
How important is this task to you in your job?	2.076	1.579	.497
How important is education on this task to you in your job?	1.923	1.545	.378
Difference of mean scores within each option:	-.153	-.034	.119

ranking difference is the job level of the supply management option subpopulation. Jobs at the lower levels such as the squadron or wing level could possibly have more involvement in the direct dealings with fuels operations. There were no differences above the .5 level for analysis. Both subpopulations reported the task low in time spent doing the task, the importance of the task, and the graduate education required for the task. Similar to the Materiel Control/Unit Supply responses, this area could be considered more appropriate to technical training than graduate education.

Munitions Management (Trble 22). There were no large differences in the rankings between the two subpopulations in fuels management. Both subpopulations ranked the area well below the middle rank of 3. This could be indicative of little involvement in this area by the population in general.

Inspection and Evaluation (Table 23). Both subpopulations ranked this area approximately the same. The supply management option subpopulation perceived that education on this task was more important than the non-supply option subpopulation. This perception could be influenced by a lack of experience and job level. Lack of experience with the inspection and evaluation techniques could drive the perceived need for more education. In turn, this perceived need could possibly be offset with more time and experience in inspections and evaluations. Experience and time could explain the rankings indicated by the non-supply option subpopulation.

Table 22

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Munitions Management

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.461	1.195	.266
How much time should you be spending on this task?	1.615	1.206	.409
Difference of mean scores within each option:	.154	.011	.143
How well did your graduate education prepare you to perform this task?	1.230	1.241	-.011
How much should your graduate education have prepared you to perform this task?	1.461	1.459	.002
Difference of mean scores within each option:	.231	.218	.013
How important is this task to you in your job?	1.692	1.298	.394
How important is education on this task to you in your job?	1.846	1.402	.444
Difference of mean scores within each option:	.154	.104	.050

Table 23

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Inspection and Evaluation

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	2.307	2.222	.085
How much time should you be spending on this task?	2.076	2.211	-.135
Difference of mean scores within each option:	-.231	-.011	-.22
How well did your graduate education prepare you to perform this task?	2.076	2.044	.032
How much should your graduate education have prepared you to perform this task?	2.307	2.166	.141
Difference of mean scores within each option:	.231	.122	.109
How important is this task to you in your job?	2.692	2.322	.37
How important is education on this task to you in your job?	2.769	2.222	.547
Difference of mean scores within each option:	.077	-.01	.087

Training (Table 24). On every question under the task subject of training, the non-supply option subpopulation ranked training higher than the supply management option subpopulation. However, both subpopulations did not rank this task as relatively high (<3). One of the rankings was higher than the .5 difference level. This higher ranking was in the area of "how much should your graduate education have prepared you to perform this task?" The non-supply option graduates felt that their graduate education should have better prepared them for this task. Given the experience and rank level of the non-supply option subpopulation, this difference could reflect the need and desire for good training techniques. The subjects may recognize the dividends good training pays to organizations. The non-supply option subpopulation also perceived that their graduate education better prepared them for this task than the supply management option subpopulation.

There are, however, some possibilites for the low rankings assigned to the task of training. These possibilites include: inadequate understanding of the difference between training and education; unfulfilled expectations in technical training which were not satisfied in the graduate education program; or educational and training expectations that neither technical training or graduate education deemed important enough to include in the respective programs.

Table 24

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Training

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.692	1.966	-.274
How much time should you be spending on this task?	1.692	2.030	-.338
Difference of mean scores within each option:	-0-	.064	-.064
How well did your graduate education prepare you to perform this task?	1.384	1.808	-.424
How much should your graduate education have prepared you to perform this task?	1.615	2.137	-.522
Difference of mean scores within each option:	.231	.329	-.098
How important is this task to you in your job?	1.923	2.146	-.223
How important is education on this task to you in your job?	1.923	2.295	-.372
Difference of mean scores within each option:	-0-	.149	-.149

Security Assistance (Table 25). The two questions on education had responses that exceeded the .5 level. The non-supply option subpopulation ranked the educational aspects of security assistance higher than the supply management option subpopulation. The non-supply option subpopulation perceived graduate education better prepared them to perform this task than the supply management option subpopulation. They also perceived graduate education should have better prepared them than it did to perform this task. This perception could be a reflection of experience and career maturity as indicated by the job level and rank of the non-supply option subpopulation. Further, the non-supply option subpopulation did not perceive the task to be as important as education on the task.

The supply management option subpopulation perceived that their graduate education should have better prepared them in this area.

Part III. Part III of the survey was part of the Graduate Evaluation Program survey and was adopted for use in this thesis. Because it focused on the skills, techniques, and methods that were taught at AFIT, it was important to measure how well the graduates rated their ability to use these skills and the usage of the skills in the performance of the tasks identified in Part II of the survey. This would, in effect, give a measure of the transferred learning. The method used to analyze the data was the same as in Part II.

Table 25

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Security Assistance

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How much time do you spend doing this task now?	1.461	1.662	-.201
How much time should you be spending on this task?	1.538	1.662	-.124
Difference of mean scores within each option:	.077	-0-	.077
How well did your graduate education prepare you to perform this task?	1.384	2.341	-.957
How much should your graduate education have prepared you to perform this task?	1.923	2.523	-.6
Difference of mean scores within each option:	.539	.182	.357
How important is this task to you in your job?	1.923	1.674	.249
How important is education on this task to you in your job?	1.769	1.953	-.184
Difference of mean scores within each option:	-.154	.279	-.433

The key elements to be analyzed in this part are how the graduates rate their ability to perform the skill, etc, how they rate their daily usage of this ability, and the educational experience in which they learned most of this skill. Though this is an evaluation of the supply management option effectiveness, it is possible that some of the graduates learned the skills, concepts, and techniques, at places other than AFIT.

A scale was designed for indicating in which educational experience the graduate learned a particular skill, concept, or technique. It is found on each of the Tables and is the same scale that the graduates used to respond to the question in the survey. It provides an image of what the mean scores indicate in response to the question on educational experience. The scale is depicted as this:

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1
Other graduate program	2
AFIT Professional Continuing Education	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

A score of 2.3 indicates that the respondents, as a subpopulation, had a mean score 2.3. It does not mean that

the educational experience was between other graduate education and Professional Continuing Education. The scale is not continuous. Movement of the mean score does not indicate a shift in educational experience. It infers only that the mean shifted. The plotting of the asterisks on the scale is only to give the reader a point of reference.

Systematically Analyzing Complex Problems (Table 26). Both subpopulations ranked their ability to analyze complex problems higher than the middle score of 3. The non-supply option subpopulation indicated both a higher ability level and higher usage level tnan the supply management option subpopulation. Given the organizational levels and difference in grade structure between the two subpopulations, it could be expected that the non-supply option subpopulation would use this ability more. In particular, the non-supply subpopulation indicated a level greater than .5 on use of this ability on a daily basis. Both subpopulations indicated that they learned most of this ability at AFIT.

Apply Statistical Concepts (Table 27). The non-supply option subpopulation ranked their ability in this area higher than the supply management option subpopulation. The non-supply option group also ranked their usage of the ability to apply statistical concepts higher. Both sub-populations ranked their ability higher than their usage of tne ability in performing the tasks identified in Part II of

Table 26

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Systematically Analyzing Complex Problems

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.692	4.112	-.43
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	3.230	3.744	-.514
Difference of mean scores within each option:	.462	.378	.084
In which educational experience did you learn most of this skill?	2.307*	1.211**	

Key to educational experience:

Educational Program	Rank	
AFIT graduate program	1	**
Other graduate program	2	*
AFIT Professional Continuing Educacation	3	
Professional Military Education	4	
Undergraduate school	5	
Technical training	6	
Other	7	

Table 27

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Statistical Concepts

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	2.923	3.511	-.588
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	1.923	2.685	-.762
Difference of mean scores within each option:	1.000	.826	.174
In which educational experience did you learn most of this skill?	1.000*	1.166**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1 *
Other graduate program	2 **
AFIT Professional Continuing Educacation	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

the survey. The distribution of the non-supply subpopulation at higher job levels and organizational levels could explain the higher use of this ability indicated by the data.

Both subpopulations indicated that they learned most of the skill in the AFIT graduate educational experience.

Conduct Scientific Research (Table 28). Again, the non-supply option subpopulation ranked their abilities and their usage of the ability higher than the supply management option subpopulation. However, there was a perceived difference by both subpopulations between their ability and usage of the ability to accomplish the tasks identified in Part II of the survey. Certain positions and special agencies such as the Air Force Logistics Management Center (AFLMC) could be expected to use more of this type skill in working special projects than base level organizations. Since there are few officers who work in these special agencies, as indicated in the biographical data, lower usage of this ability is not unusual.

A majority from both subpopulations indicated that they learned most of the skill in their AFIT educational experience. The ability to do scientific research is not used much in the career field except in very special cases. This is an area which might be examined more carefully in a future analysis for the benefits returned for the educational investment.

Table 28

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Conducting Scientific Research

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.307	3.191	.016
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	1.846	2.269	-.423
Difference of mean scores within each option:	1.461	.922	.539
In which educational experience did you learn most of this skill?	1.615*	1.784**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1 *
Other graduate program	2 **
AFIT Professional Continuing Educacation	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

Use Fundamentals or Concepts (Table 29). There were no differences above the .5 level indicated in this area. Further, there was little difference between the two subpopulations in the ranking of their ability and usage of the ability. Both subpopualtions ranked their ability and their usage of this ability in this area high.

However, undergraduate education, technical training, and the category "other" accounted for 64 of the 102 responses designating the educational experience through which they learned most of this skill. This distribution of educational experiences could indicate that education in this area at AFIT may not have been as beneficial to the subpopulations of supply officers as other areas such as statistical concepts. However, it is possible that the respondents AFIT education reenforced previous education or training in this area.

Use Writing Skills (Table 30). Rankings at the 4.0 level were given by both subpopulations in this area with no marked differences between the ability and the usage of the ability in either subpopulation. Both subpopulations indicated a high ability and usage of this skill. The non-supply subpopulation indicated higher daily use of this ability. More senior officers could be expected to have and use more refined writing skills on a more regular basis.

The data indicates that Professional Military Education (PME) and undergraduate education were the primary educational experiences in which the members of the two subpopulations

Table 29

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Using Fundamentals or Concepts

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.769	3.988	-.219
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	3.538	3.516	.022
Difference of mean scores within each option:	.231	.472	-.241
In which educational experience did you learn most of this skill?	3.846*	3.438**	

Key to educational experience:

Educational Program	Rank	
AFIT graduate program	1	
Other graduate program	2	
AFIT Professional Continuing Educacation	3	**
Professional Military Education	4	*
Undergraduate school	5	
Technical training	6	
Other	7	

Table 30

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Using Writing Skills

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	4.230	4.455	-.225
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	4.000	4.466	-.466
Difference of mean scores within each option:	.230	-.011	.241
In which educational experience did you learn most of this skill?	3.307*	4.077**	

Key to educational experience:

Educational Program	Rank	
AFIT graduate program	1	
Other graduate program	2	
AFIT Professional Continuing Educacation	3	*
Professional Military Education	4	**
Undergraduate school	5	
Technical training	6	
Other	7	

learned most of this skill. PME and undergraduate education accounted for 65 of the 103 responses as indicated by the data base. Learning writing skills may not have been a function of the subpopulations AFIT educational experience. However, the question did not address any improvement noted in the skill.

Apply Organizational Behavior Concepts and Techniques (Table 31). There was a large perceived difference between the subpopulations in the perceived ability and usage of this ability in performance of the tasks identified in Part II of the survey. The ability was perceived to be much higher than the usage in the supply management option subpopulation. Since this subpopulation is composed of mostly Captains, it could be expected that the members of this subpopulation have not reached a point in their careers where these skills could be used on a regular basis. The non-supply option subpopulation also indicated a higher ability than usage, but not to the extent of the supply management option subpopulation.

Approximately one-third of the respondents from both populations indicated they learned most of the skill in undergraduate school. Of the 103 responses, 11 stated most of the skill was learned in Professional Military Education(PME). This data was gathered from the data base in response to the educational experience in which most of this skill was learned.

Table 31

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Organizational Behavior Concepts and Techniques

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.538	3.722	-.184
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	2.846	3.266	-.42
Difference of mean scores within each option:	.692	.456	.236
In which educational experience did you learn most of this skill?	2.230*	3.155**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1
Other graduate program	2 *
AFIT Professional Continuing Educacation	3 **
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

Apply Organizational and Managerial Concepts and Techniques (Table 32). The notable perceived differences in this area were within the non-supply option subpopulation. This subpopulation ranked their ability higher than their usage of the ability in the performance of the tasks identified in Part II of the survey. With more of this subpopulation at special agencies than the supply management option subpopulation, the opportunity to use the managerial concepts may not be present as often as at lower level jobs. Base level jobs could have fewer officers assigned with more direct supervisory responsibilities.

Approximately one-half of the 103 respondents stated they learned most of the skill in educational experiences other than AFIT. Only 38 respondents from both subpopulations indicated they learned most of this skill at AFIT. Most responses were distributed over the responses of undergraduate education, PME, technical training, and "other".

Apply Information Management Concepts (Table 33). Within the supply management option subpopulation, the graduates ranked their ability higher than their usage of this ability. The non-supply option subpopulation perceptions were higher in both ability and usage of the ability over the supply management option subpopulation. As observed in other areas, the perception difference could be a function of the job level, grade, and experience. The application of management information systems would be more feasible at higher level positions.

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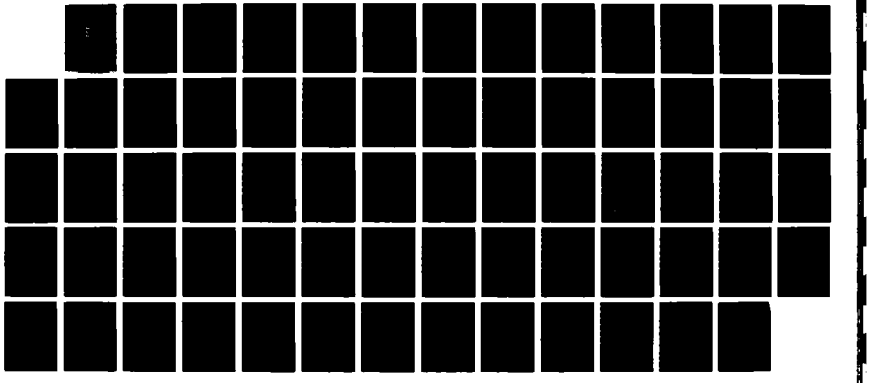

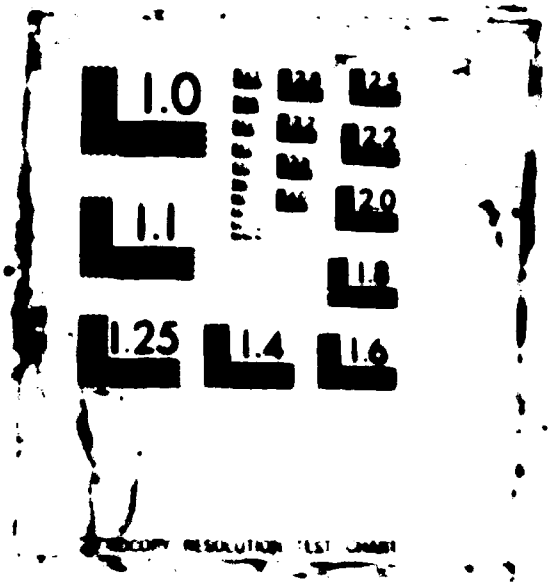
1.0
1.1
1.25
1.4
1.6
2.0
2.2

Table 32

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Organizational and Managerial Concepts and Techniques

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.769	4.000	-.231
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	3.300	3.488	-.188
Difference of mean scores within each option:	.031	.512	-.543
In which educational experience did you learn most of this skill?	3.070*	3.337**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1
Other graduate program	2
AFIT Professional Continuing Educacation	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

Table 33

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Information Management Concepts

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.166	3.755	-.589
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	2.583	3.400	-.817
Difference of mean scores within each option:	.628	.355	.273
In which educational experience did you learn most of this skill?	1.666*	2.255**	

Key to educational experience:

Educational Program	Rank	
AFIT graduate program	1	*
Other graduate program	2	**
AFIT Professional Continuing Educacation	3	
Professional Military Education	4	
Undergraduate school	5	
Technical training	6	
Other	7	

Most of the respondents indicated that they learned most of this skill in the AFIT educational experience.

Apply Economic Concepts and Techniques (Table 34). The non-supply option subpopulation ranked their ability and use of this ability higher than the supply management option subpopulation. Both subpopulations indicated a large difference between their ability to apply economic concepts and techniques and the usage of this ability in their present job. Both subpopulations ranked their ability above the mean ranking of 3 but their usage closer to a ranking of 2. The low usage of economic concepts and techniques by the two subpopulations could be a reflection of a low demand for this skill by the supply officers surveyed. The two subpopulations are not substantially different in their overall assessment to indicate that a higher job level or rank would equate to greater usage. It is possible that time spent to educate supply officers in the AFIT graduate program in this area is not of great benefit to supply officers.

The ability to use economic concepts and techniques could be more important to personnel in contracting or cost analyst functions of logistics. It is possible the time spent by supply officers in the economic area would yield more benefits if it were spent in an area such as inventory management.

Approximately 40 per cent of the respondents indicated they learned most of the skill in their undergraduate educational experience. The rest indicated their AFIT educational experience as being the source of learning most of this skill.

Table 34

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Economic Concepts and Techniques

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.307	3.422	-.115
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	2.000	2.344	-.344
Difference of mean scores within each option:	1.307	1.078	.229
In which educational experience did you learn most of this skill?	2.538*	2.811**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1
Other graduate program	2 *
AFIT Professional Continuing Educacation	3 **
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

Apply Financial Management Concepts and Techniques (Table 35). As with economic conepts and techniques, there was a large difference between the ability to apply financial management concepts and techniques and the use of this ability by the two subpopulations. The non-supply option ranked this skill slightly higher than the supply management option subpopulation in both ability and usage of the ability.

Financial management concepts and techniques could be expected to have a higher usage by supply officers dealing with stock fund management, programs, planning, and other related areas. Since these functions are usually performed by senior officers, it could have been anticipated that the non-supply option subpopulation would have indicated markedly higher ability and usage of financial management skills. However, this did not occur. Both subpopulations were approximately the same in their respective rankings.

Financial management would seem to be an important aspect of being a supply officer. The relatively low usage of this ability by the respondents could indicate: the emphasis within financial management education needs to be shifted to meet supply officer needs better; there are not many jobs which require this ability; the requirements of supply officers could be satisfied through other educational programs such as technical training and, thereby, reduce the requirement for this to be covered in AFIT graduate education.

Table 35

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Financial Management Concepts and Techniques

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.384	3.755	-.371
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	2.384	2.877	-.493
Difference of mean scores within each option:	1.000	.878	.122
In which educational experience did you learn most of this skill?	3.307*	2.877**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1
Other graduate program	2 **
AFIT Professional Continuing Educacation	3 *
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

Approximately one-half of the respondents indicated they learned most of this skill in their AFIT educational experience. Undergraduate education accounted for most of the remaining responses.

Apply Accounting Concepts and Techniques (Table 36). Both subpopulations ranked their ability much higher than their usage of the ability. As with the two preceding task areas, the jobs which demand use of this skill could be limited.

Accounting concepts and techniques might be more appropriate to supply officers dealing directly with financial records. While a knowledge of financial management could be beneficial, actual accounting skills and knowledge may have very limited use by supply officers. Contracting officers and cost analysts possibly have a higher requirement for skills in accounting than do supply officers. It is possible that the time spent on accounting at AFIT is not producing a substantial return to supply officers or the Air Force. This possibility is supported by the educational experience data.

Approximately 40 per cent (44 of 103) respondents indicated they learned most of the skill at AFIT while 60 of the 103 respondents responded that they learned most of the skill in their undergraduate educational experience. Based on this educational data, it is possible that accounting education at AFIT is more remedial education with limited use.

Table 36

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Accounting Concepts and Techniques

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.153	3.348	-.195
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	1.923	2.261	-.338
Difference of mean scores within each option:	1.23	1.087	.143
In which educational experience did you learn most of this skill?	4.230*	3.466**	

Key to educational experience:

Educational Program	Rank	
AFIT graduate program	1	
Other graduate program	2	
AFIT Professional Continuing Educacation	3	**
Professional Military Education	4	*
Undergraduate school	5	
Technical training	6	
Other	7	

Apply Contractural Concepts (Table 37). Both subpopulations ranked their ability substantially higher than their usage of the ability. The non-supply option subpopulation ranked their perceived ability and usage higher than the supply management option subpopulation. The difference of ranking between perceived ability and usage of ability by the non-supply option subpopulation, however, was less than the difference of perception indicated by the supply management option subpopulation. Contractural concepts could be expected to be used by more senior officers in higher level jobs which is characteristic of the non-supply option subpopulation in this study.

Both subpopulations indicated most of the skill was learned in their AFIT graduate level educational experience. However, all of the supply management option subpopulation indicated they learned most of this ability at AFIT while the non-supply option subpopulation indicated AFIT and other educational experiences. It is possible that the other eduational experiences provided the knowledge for the non-supply option subpopulation to better apply what was learned at AFIT to their jobs.

Evaluate Production Systems (Table 38). Both subpopulations indicated that their ability in this area was higher than their daily usage of the ability. The difference was more evident in the supply management option

Table 37

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Applying Contractual Concepts

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	2.750	3.079	-.329
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	1.583	2.352	-.769
Difference of mean scores within each option:	1.167	.727	.44
In which educational experience did you learn most of this skill?	1.000*	2.383**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1 *
Other graduate program	2 **
AFIT Professional Continuing Educacation	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

Table 38

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Evaluating Production Systems

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	2.846	2.909	-.063
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	1.769	2.045	-.276
Difference of mean scores within each option:	1.077	.864	.213
In which educational experience did you learn most of this skill?	1.307*	1.873**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1 *, **
Other graduate program	2
AFIT Professional Continuing Educacation	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

subpopulation. This difference could be a result of different job levels. At lower organizational levels there would be few, if any, opportunities to evaluate production systems. Evaluation of systems could require a depth of experience and job knowledge not possessed by the less experienced supply management option subpopulation.

However, neither subpopulation rated their ability or usage of the ability higher than the mean ranking of 3. This could possibly indicate that the time spent to educate supply officers in this ability is not extremely useful to them in jobs typically held by supply officers. It is also possible that while they do not use this ability to a great extent, it is important to them when required.

Both subpopulations indicated that most of the skill was learned in the AFIT graduate program.

Use Integrated Techniques to Analyze/Develop Policy/Strategy (Table 39). The rankings indicated, again, that perceptions of ability were higher than usage of the ability. However, the differences of mean scores were less than most other skills analyzed from Part III of the survey responses. Also, it could have been anticipated that the non-supply option subpopulation would use these skills more due to the job levels and rank structure. However, this was not indicated by the responses. Both subpopulations responded similarly.

Table 39

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Using Integrated Techniques to Analyze/Develop Policy/Strategy

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.166	3.303	-.137
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	2.583	2.811	-.228
Difference of mean scores within each option:	.583	.492	.091
In which educational experience did you learn most of this skill?	2.083*	2.089**	

Key to educational experience:

Educational Program	Rank	
AFIT graduate program	1	
Other graduate program	2	*,**
AFIT Professional Continuing Educacation	3	
Professional Military Education	4	
Undergraduate school	5	
Technical training	6	
Other	7	

There are some possible reasons for similarity of rankings by the two subpopulations: there may be few jobs that require this ability regardless of rank or organizational level; this ability may be an important but small part of the tasks the two subpopulations perform; this ability may not be important to supply officers; this ability does not relate to the tasks identified in Part II of the survey; the interpretation of what constitutes developing analyzing policy strategy could be different depending on the organizational level of the respondent.

Both subpopulations stated they learned most of the skill in the AFIT graduate educational experience. More specific data by the respondents would be needed to determine if AFIT graduate education in this area is beneficial to supply officers or if other educational processes such as PME would be more beneficial.

Evaluate Distribution Systems (Table 48). The usage of this skill was ranked lower than the perceived ability by both subpopulations of graduates. The differences of mean scores were substantial. Both subpopulations indicated an above average response to having the ability but indicated a below average response to usage of the ability.

The evaluation of distribution systems may not be an important skill to most supply officers, hence, a low usage rate by both subpopulations. The slightly higher usage rate by the non-supply option subpopulation, however, could be the

Table 40

Comparison of Mean Scores of Rankings of the Supply Management Option and Non-Supply Option Graduate Subpopulations on the Subject of Evaluating Distribution Systems

	Mean Scores		
	Supply Option	Non-Supply Option	Diff
How would you rate your ability to ...?	3.500	3.566	-.066
On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?	2.083	2.566	-.438
Difference of mean scores within each option:	1.417	1.000	.417
In which educational experience did you learn most of this skill?	1.000*	2.438**	

Key to educational experience:

Educational Program	Rank
AFIT graduate program	1 *
Other graduate program	2 **
AFIT Professional Continuing Educacation	3
Professional Military Education	4
Undergraduate school	5
Technical training	6
Other	7

result of educational experiences other than AFIT graduate education such as technical training or PCE courses. This is supported by the substantially lower usage rate by the supply management option graduates who indicated they learned all of the skill in the AFIT graduate program. The non-supply option subpopulation, on the other hand, had a higher usage, but also indicated they learned the skill in educational experiences other than the AFIT graduate program.

Both subpopulations indicated they learned most of the skill in the AFIT graduate educational experience.

A Wilcoxon test was performed on the data from Part II of the survey. The test was performed as previously discussed in Chapter III. The Wilcoxon test and results are tabulated on Table 41. The primary purpose of the test was to determine if the differnces of mean scores of perceptions indicated by the two subpopulations were significantly different. The test was performed on tne differences of mean scores calculated from the survey responses regarding how much time is spent on a task, educational aspects of the task, and the importance of the task. Only Part II data were tested because this data provided a sufficient sample of data from the two subpopulations.

There were three separate tests conducted on the 18 tasks used in Part II of the survey. The Wilcoxon test was performed on time, education, and importance. For each of these tests, the difference of mean scores of the two

Table 41

Wilcoxon Tests Performed on the Differences of Mean Scores of the Two Subpopulations Using Responses from Part II of the Survey Data

	HOW MUCH TIME		EDUCATION		IMPORTANCE	
	DIFF	RANK	DIFF	RANK	DIFF	RANK
ADMINISTRATION	-.11	10	.046	4	-.07	4
STORAGE & DISTRIBUTION	.079	9	-.809	18	.014	1
INVENTORY MANAGEMENT	-.124	11	.362	15	-.123	7
CUSTOMER INTERFACE	.031	4	.124	8	.326	12
PLANNING & PROGRAM	.208	15	-.004	1	.445	16
MAT CONTROL & UNIT SUPPLY	-.024	3	.071	6	.36	13
EQUIPMENT MANAGEMENT	.032	5	.017	3	.26	11
COMMAND & SUPERVISION	-.271	17	-.306	12	.735	18
COMPUTER SYSTEMS	.481	18	-.179	10	.467	17
PROJECTS	.077	7.5	-.662	17	.143	9
CONTRACT INTERFACE	.2	14	-.067	5	.068	3
CONTINGENCY/ MOBILITY	-.023	2	-.129	9	-.407	14
RESOURCE MANAGEMENT	.143	12.5	-.256	11	.129	8
FUELS MANAGEMENT	.011	1	-.332	13	.119	6

Table 41 continued

MUNITIONS MANAGEMENT	.143	12.5	.013	2	.050	2
INSPECTION & EVALUATION	-.22	16	.109	7	.087	5
TRAINING	-.064	6	-.522	16	-.149	10
SECURITY ASSISTANCE	.077	7.5	.357	14	-.433	15

TEST: 2 sided test using Wilcoxon Ranked Sum Difference test

N=18

Confidence level (α):.05

Reject Ho if Tstat is less than or equal to Tcrit where T is minimum of T+ or T-.

CALCULATIONS:

HOW MUCH TIME:

T+ = 9+4+15+5+18+7.5+14+12.5+1+12.5+7.5 = 106
T- = 10+11+3+17+2+16+6 = 65
T statistic: 65
T critical: 40

Tstat (65) is greater than Tcrit (40) $\therefore$ fail to reject Ho.

EDUCATION

T+ = 4+15+8+6+3+2+7+14+ = 59
T- = 18+1+12+10+17+5+9+11+13+16 = 112
T statistic: 59
T critical: 40

Tstat (59) is greater than Tcrit (40) $\therefore$ fail to reject Ho.

IMPORTANCE

T+ = 1+12+16+13+11+18+17+9+3+8+6+2+5 = 121
T- = 4+7+14+10+15 = 50
Tstatistic: 50
Tcritical: 40

Tstat (50) is greater than Tcrit (40) $\therefore$ fail to reject Ho.

subpopulations were used for each task. These difference scores were ranked from lowest to highest. The rankings were divided into groups by the sign, plus(+)or minus(-). The rankings were summed for both groups for each test. The group with the smallest sum was used as the T statistic (T stat). The T stat was compared to the T critical value (T crit) which was derived using a two-tailed test for a N value of 18 and a confidence level (α) of .05. These calcualtions are also tabulated on Table 41.

The results of the 3 tests indicate that the differences of mean scores of perceptions were not different regarding time, education or importance of the 18 tasks. For each of the tests, the results indicate, with 95 per cent confidence, that the two subpopulations perceptions are not significantly different.

Summary of Data Analysis. This chapter analyzed the data collected from the two subpopulations in response to the survey. It analyzed the biographical data from Part I, the task data from Part II, and the use of skills, concepts and techniques from Part III of the survey. This chapter focused on the analysis of the mean scores to questions in the survey. The mean scores were computed and differences calculated to portray differences in perceptions by the two subpopulations.

Chapter V will summarize the data and make conclusions and recommendations based on the findings of this chapter.

V. Summary, Conclusions, and Recommendations

This chapter begins with a review of the research questions and hypotheses from Chapter 1. The questions are followed by a review of the research methodology. The conclusions of the research effort are presented next. The chapter concludes with recommendations for further research.

Summary

The central research question of this study was stated as: Is the supply management option at AFIT effective? Sub-research questions were: What is educational effectiveness? How can it be measured? What has been done in the past to evaluate AFIT programs? The hypotheses tested were:

Ha: The graduates of the supply management option perceive the supply management option to be more useful in the performance of supply duties than supply officers who graduated from other options.

Ho: The graduates of the supply management option perceive the supply management option to be no more useful in the performance of supply duties than supply officers who graduated from other options.

Summary of Research Methodology

The research methodology was designed to gather the data necessary to provide answers to the research questions and to test the hypotheses. The methodology included identification of the population, the survey instrument, data collection, and the analysis of data.

The population was comprised of all active duty supply officers who graduated from AFIT and are currently in the supply career field. The population was divided into two subpopulations. One subpopulation was the supply management option graduates and the other the non-supply option graduates.

A survey was designed to gather the data needed to provide answers to the questions. The survey was mailed to the entire population previously described. A response rate of 61.3 per cent was attained.

The survey collected three types of data. One type was biographical data. The biographical data were gathered to obtain a clear concept of the positions, job levels, years in service, etc., that the two subpopulations represented. The second type of data were perceptions of duties most supply officers perform. The third type of data were the graduates' perceptions of their ability to use the skills, concepts and techniques learned at AFIT.

Data were analyzed by determining the difference of the mean scores of the responses to Parts II and III of the survey. The differences of the mean scores were analyzed in relation to the biographical data and the two subpopulations.

Answers to the Research Questions

The subresearch questions are addressed first since the information they provided had a direct bearing on the answer to the central research question.

What is educational effectiveness? The answer to this question was difficult since experts did not agree to a common definition. However, as a result of the literature review, it could be stated that educational effectiveness is a measurement of the total effect that an educational process has on the recipient and how well that education serves the recipient. Based on the analysis of Part III data, which addressed the skills, concepts and techniques taught at AFIT, the two subpopulations use their AFIT education. A majority of respondents indicated they learned skills, concepts and techniques at AFIT which they use to perform the tasks identified in Part II of the survey.

How can Educational Effectiveness be Measured? There are several methods to measure educational effectiveness. The method used in this research was primarily a summative method of educational evaluation by which the net effect of the AFIT graduate education was measured. The measurement was accomplished through an application of Lyman Porter's method of needs deficiency determination for different levels of management. In the application of Porter's method to this research, the objective was to measure the differences of perceptions of the two subpopulations. The differences of perceptions should indicate if one subpopulation perceived graduate education from AFIT to be more useful. The survey used in this study was designed to measure the differences of perceptions between the two subpopulations.

The methods used to measure the effectiveness of the supply management option were well-founded and valid. The method was based on evaluating the summed effects of the educational process and use of Porter's needs determination to measure the differences of the graduates' perceptions. The results should allow for a subjective evaluation of the hypotheses.

What has been done in the past to evaluate AFIT programs? There have been many evaluations of AFIT programs. One evaluation, the Mashburn study, provided insight on how to approach the subject of evaluating an AFIT program. The insight provided an approach to use job inventory data in conjunction with educational requirements. This same method was used in this study and produced valid results.

Is the supply management option at AFIT effective? The supply management option at AFIT was determined as effective but no more effective than any other option for supply officers. There are several reasons for this conclusion.

The supply management option is effective because the education provided by the option is used by the graduates in the performance of supply tasks. This conclusion is based on the data analyzed from Parts II and III of the survey. The skills, concepts, and techniques learned at AFIT are used to perform the tasks identified in Part II of the survey.

However, the differences of mean scores of the usage of the skills, concepts, and techniques for the subpopulations

were not substantially different. The support for this conclusion is found in the data in Parts II and III of the survey responses found in Tables 8-40 and Tables 42-45. Tables 8-40 provide the actual numerical data for each task, skill, concept, or technique evaluated in this study. These tables also indicate the mean score differences of responses from the two subpopulations. Tables 42-45, on the other hand, indicate the same data in a modified fashion.

Tables 42-45 show the relationship between tasks, education, importance, and ability as perceived by the respondents without the stigma of the numbers. These tables were developed to show the relationship of the perceptions of the respondents to the various areas regardless of how the perceptions ranked on the numerical scale. This information is valuable in determining, for example, whether supply management option graduates perceive the need for more graduate education to perform a task regardless of how much time they actually spend on the task. The task may not require much time, but be very important to them. As a result, education on this task may also be important. Combined with the data from the other tables, a complete picture of the perceptions of the two subpopulations can be derived and substantiates the conclusion regarding the effectiveness of the supply management option.

TABLE 42

Supply Management Option Subpopulations Perceived Relationship of Time, Graduate Education, and Importance of Tasks

Task	Time		Graduate Education		Task Importance	Education Importance
	Time spent doing the task in relation to how much time should be spent doing the task	How much time should be spent doing the task in relation to time spent doing the task	How well it prepared in relation to how much it should have prepared	How much it should have prepared in relation to how well it did prepare	How important is task in relation to education on task	How important is education in relation to task importance
Administration and Management	High	High	Less	More	More	Less
Storage and Distribution	Low	Low	Less	More	Less	More
Inventory Management	Mid	Mid	Less	More	Less	More
Customer Interface	Mid	Mid	Less	More	Equal	Equal
Planning and Programming	Mid	Mid	Less	More	Less	More
Material Control/Bulk Supply	Low	Low	Less	More	Less	More
Equipment Management	Low	Low	Less	More	Less	More
Command and Supervision	Mid	Mid	Less	More	Less	More
Computer Systems	Mid	Mid	Equal	Equal	Less	More
Project and Program Management	Mid	Mid	More	Less	Less	More
Contract Interface	Low	Low	Less	More	Less	More
Contingency, Mobility, and Exercise	Mid	Mid	Less	More	More	Less
Resource Management	Mid	Mid	Less	More	Less	More
Waste Management	Low	Low	Less	More	More	Less
Munitions Management	Low	Low	Less	More	Less	More
Inspection and Evaluation	Mid	Mid	Less	More	Less	More
Training	Low	Low	Less	More	Equal	Equal
Security Assistance	Low	Low	Less	More	More	Less

Scale: 3 to 5 High Number refers to the contimpe assessed by the
2 to 4 Mid respondents to those areas in Part II of the survey.
1 to < 2 Low

TABLE 43

Non-supply Option Subpopulations Perceived Relationship of Time, Graduate Education, and Importance of Tasks

Task	Time		Graduate Education		Task Importance	Education Importance
	Time spent doing the task in relation to how much time should be spent doing the task	How much time should be spent doing the task in relation to time spent doing the task	How well it prepared in relation to how much it should have prepared	How much it should have prepared in relation to how well it did prepare	How important is task in relation to education on task	How important is education in relation to task importance
Administration and Management	High	High	Less	More	More	Less
Storage and Distribution	Low	Low	Less	More	Less	More
Inventory Management	Mid	Mid	Less	More	Less	More
Customer Interface	Mid	Mid	Less	More	More	Less
Planning and Programming	Mid	Mid	Less	More	More	Less
Material Control/Unit Supply	Low	Low	Less	More	Less	More
Equipment Management	Low	Low	Less	More	Less	More
Command and Supervision	Mid	Mid	Less	More	More	Less
Computer Systems	Mid	Mid	Less	More	Less	More
Project and Program Management	Mid	Mid	Less	More	Less	More
Contract Interface	Mid	Mid	Less	More	Less	More
Contingency, Mobility, and Exercise	Mid	Mid	Less	More	More	Less
Resource Management	Mid	Mid	Less	More	Less	More
Funds Management	Low	Low	Less	More	More	Less
Munitions Management	Low	Low	Less	More	Less	More
Inspection and Evaluation	Mid	Mid	Less	More	More	Less
Training	Low	Mid	Less	More	Less	More
Security Assistance	Low	Low	Less	More	Less	Less

Scale: 2.6 to 3 High Number refers to the rankings assessed by the
2.2 to 2.5 Mid respondents to these areas in Part II of the survey
1.1 to 2.1 Low

Table 44

Comparison of the Supply Management Option Subpopulations Perceptions of Ability to Perform Tasks and Usage of the Ability

Skill, concept, or technique	Rated ability in relation to usage of ability	Usage of ability in relation to rating of ability
Systematically Analyzing Complex Problems	Higher	Lower
Applying Statistical Concepts	Higher	Lower
Conducting Scientific Research	Higher	Lower
Using Fundamentals or Concepts	Higher	Lower
Writing Skills	Higher	Lower
Applying Organizational Behavior Concepts and Techniques	Higher	Lower
Applying Organizational and Managerial Concepts and Techniques	Higher	Lower
Applying Information Management Concepts	Higher	Lower
Applying Economic Concepts and Techniques	Higher	Lower
Applying Financial Management Concepts and Techniques	Higher	Lower
Applying Accounting Concepts and Techniques	Higher	Lower
Applying Contractual Concepts	Higher	Lower
Evaluating Production Systems	Higher	Lower
Using Integrated Techniques to Analyze/ Develop Policy/Strategy	Higher	Lower
Evaluating Distribution Systems	Higher	Lower

Table 45

Comparison of the Non-Supply Option Subpopulations Perceptions of Ability to Perform Tasks and Usage of the Ability

Skill, concept, or technique	Rated ability in relation to usage of ability	Usage of ability in relation to rating of ability
Systematically Analyzing Complex Problems	Higher	Lower
Applying Statistical Concepts	Higher	Lower
Conducting Scientific Research	Higher	Lower
Using Fundamentals or Concepts	Higher	Lower
Writing Skills	Lower	Higher
Applying Organizational Behavior Concepts and Techniques	Higher	Lower
Applying Organizational and Managerial Concepts and Techniques	Higher	Lower
Applying Information Management Concepts	Higher	Lower
Applying Economic Concepts and Techniques	Higher	Lower
Applying Financial Management Concepts and Techniques	Higher	Lower
Applying Accounting Concepts and Techniques	Higher	Lower
Applying Contractual Concepts	Higher	Lower
Evaluating Production Systems	Higher	Lower
Using Integrated Techniques to Analyze/ Develop Policy/Strategy	Higher	Lower
Evaluating Distribution Systems	Higher	Lower

The analysis of the data from Part II of the survey assessed four critical areas. These were: time spent on tasks, education for the tasks, and the importance of the tasks and education. Each of these will be briefly reviewed.

The differences of mean scores for how much time each of the two subpopulations spent on any given task were negligible. Based on the response scale of 1 to 5, there were only 3 difference scores that exceeded a .2 difference level. No scores exceeded a .5 level. The greatest difference of .481 was in computer systems in which the non-supply option graduates reportedly spent more time on this task. As a result, it could be evaluated that there was little difference between the two subpopulations regarding how much time they spent doing the tasks. These results are further substantiated by Tables 42 and 43. There were only two differences between the two subpopulations on time spent on tasks. In both instances, the non-supply option graduates perceived that more time should be spent on the tasks.

The differences between the two subpopulations perceptions regarding the educational aspects of the tasks were only slightly more pronounced. There were three scores greater than a .5 difference. These were in storage and distribution, projects and program management, and training. There were 5 scores with a difference greater than a .2 level. However, the differences were not sufficiently substantial to state that the perceptions of the two subpopulations varied greatly. Tables

42 and 43 support this same conclusion in that the only differences of perceptions indicated were in the area of training and in project and program management.

The evaluation of the importance of the tasks and education to do the tasks produced similar results. The differences of mean scores were not large. The task of command and supervision was higher than the .5 difference level. This difference was concluded to be a result of the difference in rank between the two subpopulations. The non-supply option subpopulation was of a higher rank structure than the supply management option subpopulation. This higher rank structure could expect to place more emphasis on command and supervision.

There were 7 tasks in which there was a score difference between the .2 and .5 level. These tasks included customer interface, planning and programming, materiel control/unit supply, equipment management, computer systems, contingency/ mobility and security assistance. In contingency/mobility and security assistance the subpopulations perceived that education on the task was less important the task. For the other tasks, the two subpopulations perceived that education was slightly more important than the task in their present job. The result was very little difference in the perceptions of the two subpopulations was observed. Again, Tables 42 and 43 provide support for this conclusion.

In reviewing the Part II data as a whole, there were only 4 of 54 difference of means scores that exceeded a .5 difference level. This relatively small number was not substantial enough to state that the perceptions of the two subpopulations differed to any great extent.

Part III data did not produce any marked differences between the perceptions of the two subpopulations. The differences of the mean scores of the two subpopulations were negligible.

Of the 15 skills, concepts, and techniques investigated in this part of the survey, only 2 indicated a difference of mean scores greater than a .5. These 2 areas were conducting scientific research and applying organizational and managerial concepts. The non-supply option subpopulation rated their ability and use of organizational and managerial concepts higher than the supply management option subpopulation. The non-supply option subpopulation rated their usage of the ability to conduct scientific research higher also. However, the supply management option subpopulation rated themselves higher on the ability to conduct scientific research.

In the .3 to .4 range of differences of mean scores, the non-supply option subpopulation rated themselves higher in ability and in usage of the ability to apply contractual concepts and evaluate distribution systems. The balance of the difference of mean scores were all ranked below a .3 difference.

Tables 44 and 45, in a more general manner, verify that there were few differences between the two subpopulations. Except for writing skills in the non-supply option subpopulation, the two subpopulations rated areas to Part III of the survey the same. Therefore, the supply management option could be rated as an effective program but no more effective than any other option to supply officers.

The answer to the research question on the effectiveness of the supply management option leads to the determination of the hypotheses. The supply management option graduates do not perceive the supply management option to be more useful in the performance of supply duties than supply officers who graduated from other options. Therefore, the null hypothesis can not be rejected. However, because it is perceived to be no more effective in the performance of supply tasks evaluated in this study does not mean that it is not useful. By definition of educational effectiveness used in this study, the supply management option is useful and effective.

Conclusions

Tne results indicate the supply management is effective. The effectiveness of the supply management option is, however, limited in scope and application. It was evaluated as effective because the education the option provided to the graduates is used in the performance of supply tasks. The definition of educational effectiveness used in this study was centered on the ability of the graduates to transfer what they

learned to the job environment. As indicated by the results of Part III of the survey, the graduates do use the skills, concepts, and techniques learned at AFIT in the performance of supply duties. However, there are also educational needs indicated by the respondents which limit how much they use the education on the job.

The educational needs perceived by the graduates of the supply management option are indicated on Table 42. In 16 of 18 tasks identified, the supply management option subpopulation indicated that graduate education did not prepare them as well as it should have. Only in project and program management did the respondents indicate that graduate education was more than sufficient. They indicated tnat graduate education should have prepared them "more" for the tasks. They also reported in 14 cases that education was more important in relation to the task performance. The respondents perceived this importance of education in areas more directly related to supply duties such as storage and distribution, materiel control/unit supply, and equipment management. This is in contrast to their perceptions to more general tasks such as administration, management and security assistance.

Table 45 compared the supply management option subpopulations perceptions regarding their ability in 15 skills, concepts, or techniques to their usage of the ability in the performance of supply tasks. In all 15 cases they rated their ability higher in relation to their usage of the

ability. This study did not address, however, how important these skills, concepts, or techniques were to the respondents in performing supply tasks. In spite of a lower usage in comparison to their perceived ability, the respondents could possibly consider the ability extremely important.

When evaluating the data from the supply management subpopulation, it is important to consider that the data are perceptions of supply officers. The tasks and what constituted those tasks were limited and susceptible to individual interpretation. The tasks did not include all tasks supply officers perform. Further, the expectations of graduate education could be confused with expectations of technical training. The respondents could have perceived that graduate education should have enhanced their technical training. As discussed earlier, this is not the intended purpose of AFIT.

Therefore, based on the data measured and the perceptions of the graduates, the supply management option is effective because the graduates use what they learned in the performance of the supply tasks evaluated. However, the degree of the effectiveness is still uncertain. Clearly, there were perceived needs which were not met by graduate education. While the supply management option did not meet all of the perceived needs of the graduates, it provided education that they used in the performance of supply duties.

The better the supply management option can satisfy the respondents perceived needs in the future, the better the option will serve the supply community.

This conclusion must also be measured against the other options from which supply officers have graduated. When all the data were compared, there was little difference in the perceptions of the supply management option graduates and the non-supply option graduates. The data to support this conclusion were reviewed extensively. Tables 42-45 indicate that, except for a few cases, the overall perceptions of the two subpopulations were similar.

Recommendations

Many areas of this study should be expanded for future research by AFIT and the supply community.

A longitudinal study of the effectiveness of the supply option would be beneficial when the supply management option graduates have had the opportunity to mature in their careers and increase in population size. The supply management option graduate subpopulation was small in comparison to the other subpopulation. This could have, for example, affected the answers in the command, planning and programming, and the inventory areas. Thus, a more mature supply management option subpopulation should be surveyed at a later date. The results could indicate some areas that need to be changed in the supply management option curriculum.

A joint effort by the technical training institution, AFIT, and Air Force Manpower and Personnel Center (AFMPC) should be initiated to resolve what appears to be low usage of some skills, concepts, and techniques taught at AFIT. The technical training school should be included because there are areas indicated, such as Materiel Control/Unit Supply where more education was desired but may not be the purview of AFIT to teach. Technical training should compliment the graduate education and vice versa. The data indicates that the two may not be in harmony to the benefit of the supply officers.

In addition, the survey instrument used in this study could be used in evaluating other AFIT options. With some job task analysis information, the survey instrument needs only job title information changes for proper application..

The data gathered in this study forms a baseline from which other studies can be initiated. For AFIT to continue to be responsive to the needs of the Air Force, constant surveillance of programs is necessary. The supply option manager should use the information from this study to closely examine the supply management option and its contribution to the effectiveness of the supply career field.

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OH 45433-6583

REPLY TO ATTN OF: LS (Major Yaskin, AUTOVON 785-5345)

SUBJECT: Educational Effectiveness Survey Package

TO: Graduate of AFIT

1. Please take time to complete the attached questionnaire and return it to us in the enclosed envelope by 14 January 1987.

2. The survey measures the degree of need satisfaction between your AFIT graduate education experience and your ability to use the skills, concepts, and techniques learned at AFIT in your job. The data gathered will become part of an AFIT research project and could influence the focus and content of the Supply Management option. Your individual responses will be combined with others and will not be attributed to you personally.

3. Your participation is completely voluntary. However, we would appreciate your help in that there is a relatively small population qualified to participate in this project. Therefore, every survey is critical to the outcome. For further information, contact Major Anthony S. Yaskin at AUTOVON 785-5345.

Bruce P. Christensen

BRUCE P. CHRISTENSEN, Lt. Col, USAF
Program Manager
Supply Management Option
Dept of Logistics Management
School of Systems and Logistics

INSTRUCTIONS FOR COMPLETING THE SURVEY

PURPOSE: The purpose of this survey is to measure the degree of need satisfaction between the tasks you perform as a Supply officer, the education you have received to perform those tasks, and where you learned the skills to perform the tasks. The duties and tasks identified in this survey were extracted from the Occupational Survey Report and Job Inventory Analysis completed by the Occupational Measurement Center and are reproduced and used with their written permission.

HOW TO TAKE THE SURVEY: Proceed through the survey one part at a time starting with Part I. Please be certain to complete all answers and that the question on the survey instrument matches the response on the answer sheet. All information is critical to the analysis of the data. Therefore, accuracy and thoroughness are important.

HOW TO MARK A RESPONSE: Use a No.2 pencil to mark your responses on the answer sheet. When answering a question, find the response number that matches the question you are answering. Find the circle next to it that has the same number as the response you chose and blacken the circle completely. DO NOT USE PEN. USE ONLY A NO.2 PENCIL! If the response requires you to provide a written answer, write your answer in the space provided on the survey.

Be sure all marks are black and that you use a No.2 pencil.

Please check your responses with the survey to ensure no questions were skipped or responses left blank.

Return the survey and the answer sheet in the self-addressed envelope provided.

Thank you for taking the time to complete the survey.

INSTRUCTIONS FOR PART I

The following are supplementary instructions to assist you in completing Part I of this survey.

QUESTION:

1-3. Fill in any prefix, the AFSC, and any suffix to that AFSC in the spaces provided. If you do not have a prefix or suffix, indicate NA in the block. For example:

Prefix	AFSC	Suffix
A	6416	N/A

4. Blacken the circle on the answer sheet that corresponds to the number that matches your present grade.

5. Blacken circle 1 for regular, circle 2 for reserve status.

6-8. Read question 6. If your major command or agency is one of the selections, blacken the number on the answer sheet that coresponds to your answer. If you do not find your major command or agency in question 6, blacken the NA circle on the answer sheet and go to question 7. Follow the same procedure for question 7 and 8. If none of the selections provided match your major command or agency, then write in your command or agency in the space provided in question 8. If you write in a response in question 8, blacken in circle number 7 on the response sheet along with your written response.

9-12. Blacken in the circle on the answer sheet that matches the answer you chose for each of the questions.

15-23. You are to respond with your organizational level. Mark only ONE answer. If you do not find your organizational level in question 15, blacken in the NA circle on the answer sheet and go to question 16. Follow the same procedure for each of the questions. When you find a selection that matches your organizational level, blacken circle number 1 on the answer sheet for that question. If you do not find your organizational level in questions 15-22, then blacken circle 1 on question 23 and write in your organizational level.

24. Blacken in circle 1 for this response and write in the year you graduated as indicated in the survey.

SURVEY

PART I
PERSONNEL INFORMATION SECTION

1. Primary AFSC (fill in spaces with appropriate information)

PREFIX	AFSC	SUFFIX

2. Secondary AFSC (fill in spaces with appropriate information)

PREFIX	AFSC	SUFFIX

3. Duty AFSC (fill in spaces with appropriate information)

PREFIX	AFSC	SUFFIX

4. Present grade (indicate your present grade)

2LT	1LT	CAPT	MAJ	LT COL	COL
(1)	(2)	(3)	(4)	(5)	(6)

5. Component REGULAR (1) RESERVE (2) (choose one)

MAJOR COMMAND OR AGENCY (Choose only one response to either question 6, 7, or 8. Mark (8A) if your command is not indicated in the question)

6.

AAC	USAFA	USAFE	AFLC	AFSC	ATC	SQ USAF
(1)	(2)	(3)	(4)	(5)	(6)	(7)

7.

MAC	PACAF	SAC	TAC	ESC	AFCC	AFRES
(1)	(2)	(3)	(4)	(5)	(6)	(7)

8.

SPACE COM	NATO	DLA	AFDSDC	AFLMC	MAAG
(1)	(2)	(3)	(4)	(5)	(6)

(7) OTHER (Please specify)_____

9. Time in present job (in years)

(1) less than 1
(2) more than 1 but less than 2
(3) more than 2 but less than 3
(4) more than 3 but less than 4
(5) more than 4 but less than 5
(6) more than 5 but less than 6
(7) more than 6 years

10. Time at present home base of location (in years)

(1) less than 1
(2) more than 1 but less than 2
(3) more than 2 but less than 3
(4) more than 3 but less than 4
(5) more than 4 but less than 5
(6) more than 5 but less than 6
(7) more than 6 years

11. Total time in 64XX Career Field (in years)

(1) less than 3 years

(2) more than 3 but less than 6

(3) more than 6 but less than 9

(4) more than 9 but less than 12

(5) more than 12 but less than 15

(6) more than 15 but less than 18

(7) more than 18

12. How much active commissioned service do you have? (in years)

(1) less than 3 years

(2) more than 3 but less than 6

(3) more than 6 but less than 9

(4) more than 9 but less than 12

(5) more than 12 but less than 15

(6) more than 15 but less than 18

(7) more than 18

13. How much total active military service do you have? (in years)

(1) less than 3 years

(2) more than 3 but less than 6

(3) more than 6 but less than 9

(4) more than 9 but less than 12

(5) more than 12 but less than 15

(6) more than 15 but less than 18

(7) more than 18

14. To what extent has the formal education you have received since entering the Air Force (such as APIT, Bootstrap, CCAF, or off-duty) been useful in your present job?

(1) I have not completed any formal education since entering

(2) not at all

(3) a small extent

(4) a moderate extent

(5) a very large extent

Indicate which one of the following BEST describes the organizational level of your current job. (Indicate only one answer. (Mark NA for those responses that do not apply for questions 15 through 23. Fill in circle "1" for selected response)

15. Detachment or Operating Location
16. Squadron, Separate Operating Activity, or Equivalent
17. Group or Equivalent
18. Wing or Equivalent
19. Numbered Air Force, Major Command Intermediate Headquarters, or Equivalent
20. Major Command or Equivalent
21. Unified Command, Specified Command, Joint Service, or Equivalent
22. DOD or Headquarters Air Force
23. Other Level (please specify)_____

24. What year did you graduate from graduate school? (If more than one graduate degree, please indicate the date you graduated from AFIT by giving the class number,(i.e, 86S, 87D, etc.) in the space provided._____

INSTRUCTIONS FOR PART II

There are 18 duties covered in Part II of this survey. These areas reflect duties performed by Supply officers as documented in the OMC Job Inventory, dated February 1984. If you are not sure what is meant by one of the duties, such as Administration and Management, there is an attachment 1 to this survey with descriptors of each of the duties. These descriptors are not all inclusive, but are written to give you an idea of what tasks are included in each of the duties.

To answer the questions, find the number of the question on the answer sheet and blacken the circle that matches that answer. Use only a NO.2 PENCIL and blacken the circle completely. If you make an error, erase it completely and blacken the correct response.

KEY:
(1) not at all
(2) below average
(3) average
(4) above average amount
(5) use a lot

SURVEY
Part II

NOTE: If further definition of the duties is needed, they can be found in Attachment 1 to this survey.

In the area of administration and management:

29. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

30. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

31. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

32. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

33. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

34. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of storage and distribution:

35. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

36. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

37. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

38. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

39. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

40. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of inventory management:

41. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

42. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

43. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

44. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

45. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

46. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of customer interface:

47. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

48. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

49. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

50. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

51. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

52. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of planning and programming:

49 How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

50 How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

51 How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

52 How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

53 How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

54 How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of material control/ unit supply:

55 How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

56. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

57 How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

58. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

59 How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

60 How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of equipment management:

61 How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

62 How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

63 How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

64 How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

65 How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

66 How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of computer systems:

67. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

68. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

69 How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

70 How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

71. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

72. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of command and supervision:

73. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

74. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

75. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

76. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

77. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

78. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of resource management:

79. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

80. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

81. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

82. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

83. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

84. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of fiscal management:

85. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

86. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

87. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

88. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

89. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

90. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of conditions management:

91. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

92. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

93. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

94. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

95. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

96. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of inspecting and evaluating:

97. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

98. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

99. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

100. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

101. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

102. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of contingency, agility, and exercise:

103. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

104. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

105. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

106. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

107. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

108. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of contract interface:

109. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

110. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

111. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

112. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

113. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

114. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of project and program management:

115. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

116. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

117. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

118. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

119. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

120. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of training:

121. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

122. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

123. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

124. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

125. How much should your graduate education have prepared you to perform this task?

(min) 1 2 3 4 5 (max)

126. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

In the area of security assistance:

127. How much time do you spend doing this task now?

(min) 1 2 3 4 5 (max)

128. How much time should you be spending on this task?

(min) 1 2 3 4 5 (max)

129. How important is this task to you in your job?

(min) 1 2 3 4 5 (max)

130. How well did your graduate education prepare you to perform this task?

(min) 1 2 3 4 5 (max)

131. How much should your graduate education have prepared you perform this task?

(min) 1 2 3 4 5 (max)

132. How important is education on this task to you in your job?

(min) 1 2 3 4 5 (max)

PART III

This part of the survey is designed to measure certain skills you use in the performance of the duties you specified in Part II of this survey. The subjects covered are descriptions of cognitive skills, processes, and techniques that you may or may not use. The skills, processes, and techniques are taken from the AFIT Graduate Evaluation Program survey. The second part of each question is designed to identify where you learned them. If you do not use a particular skill, process, or technique, please indicate with the appropriate response (NA).

INSTRUCTIONS FOR COMPLETING PART III:

On each page of Part III, there are three questions pertaining to your ability to perform a skill, concept, or technique. Answer the questions using the same procedure as in Part II. When responding to the educational experience in which you learned the skill, concept or technique, blacken in only ONE response. If your response is not one provided, blacken in circle number 7 on the answer sheet and write in your response in the space provided in the survey.

KEY:

(1) not at all

(2) below average

(3) average

(4) above average amount

(5) use a lot

133. How would you rate your ability to systematically analyze complex problems?

(min) 1 2 3 4 5 (max)

134. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

135. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

136. How would you rate your ability to apply statistical concepts?

(min) 1 2 3 4 5 (max)

137. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

138. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

139. How would you rate your ability to conduct scientific research?

(min) 1 2 3 4 5 (max)

140. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

141. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

142. How would you rate your ability to use fundamentals or concepts?

(min) 1 2 3 4 5 (max)

143. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

144. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

145. How would you rate your ability to use writing skills?

(min) 1 2 3 4 5 (max)

146. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

147. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program

(2) Other graduate program

(3) AFIT Professional Continuing Education

(4) Professional Military Education

(5) Undergraduate school

(6) Technical training

(7) Other (please specify)_____

148. How would you rate your ability to apply organizational behavior concepts and techniques?

(min) 1 2 3 4 5 (max)

149. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

150. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program

(2) Other graduate program

(3) AFIT Professional Continuing Education

(4) Professional Military Education

(5) Undergraduate school

(6) Technical training

(7) Other (please specify)_____

151. How would you rate your ability to apply organizational and managerial concepts and techniques?

(min) 1 2 3 4 5 (max)

152. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

153. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program

(2) Other graduate program

(3) AFIT Professional Continuing Education

(4) Professional Military Education

(5) Undergraduate school

(6) Technical training

(7) Other (please specify)_____

154. How would you rate your ability to apply information management concepts?

(min) 1 2 3 4 5 (max)

155. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

156. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program

(2) Other graduate program

(3) AFIT Professional Continuing Education

(4) Professional Military Education

(5) Undergraduate school

(6) Technical training

(7) Other (please specify)_____

157. How would you rate your ability to apply economic concepts and techniques?

(min) 1 2 3 4 5 (max)

158. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

159. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

160. How would you rate your ability to apply financial management concepts and techniques?

(min) 1 2 3 4 5 (max)

161. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

162. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

163. How would you rate your ability to apply accounting concepts and techniques?

(min) 1 2 3 4 5 (max)

164. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

165. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

166. How would you rate your ability to apply contractual concepts?

(min) 1 2 3 4 5 (max)

167. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

168. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

169. How would you rate your ability to evaluate production systems?

(min) 1 2 3 4 5 (max)

170. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

171. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

172. How would you rate your ability to use integrated techniques to analyze/develop policy/strategy?

(min) 1 2 3 4 5 (max)

173. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

174. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

175. How would you rate your ability to evaluate distribution systems?

(min) 1 2 3 4 5 (max)

176. On a daily basis, in your present job, how would you rate your usage of this ability to accomplish the tasks described in Part II of this survey?

(min) 1 2 3 4 5 (max)

177. In which educational experience did you learn MOST of this skill? (choose only one response)

(1) AFIT graduate program
(2) Other graduate program
(3) AFIT Professional Continuing Education
(4) Professional Military Education
(5) Undergraduate school
(6) Technical training
(7) Other (please specify)_____

ATTACHMENT ONE

DESCRIPTORS

ADMINISTRATION AND MANAGEMENT: Advise Commanders or subordinates; analyze reports or data; approve/disapprove correspondence, regulations, manuals, operating instructions, deviations from normal operations, inspections; assign duties or tasks; chair or participate in meetings; compile information; command, control, or coordinate activities; draft/write various types of correspondence; evaluate correspondence, equipment, personnel; maintain information systems and files; monitor unit programs and projects; review reports, correspondence, and plans.

PERFORMING STORAGE AND DISTRIBUTION FUNCTIONS: Approve/disapprove justifications, reviews, or monitor requests for Mechanized Materiel Handling Systems (MMHS), and/or Materiel Handling Equipment (MHE); monitoring stored equipment/supplies, vehicle use, warehouse equipment use, property/asset movement within and without the unit, and various warehouse programs; plan the use of storage facilities.

PERFORMING INVENTORY MANAGEMENT FUNCTIONS: Analyze MICAP data; approve/disapprove identity changes, blanket purchase agreements, special levels, stockage requirements, use of exception codes; monitor assets in repair cycle, chemical warfare defense equipment, critical items, engine management program, equipment-in-stock-not-in-use, mission change data, received not billed, billed not received, and shipped not credited; participate in provisioning conferences, reliability and maintainability demonstrations, source selection evaluation boards, source selection advisory councils, evaluations of proposals, T.O. validation/verification reviews; review ISSL's or MSSL's, local purchase requests, reporting of excess property, UMMIPS priority abuse, technical orders, and other materiel management areas; prepare documents and reports to monitor or manage inventory assets; verify priority requisitions.

PERFORMING CUSTOMER INTERFACE FUNCTIONS: Approve/disapprove various requests for equipment and supplies, maximum authorized quantities (MAQ), minimum reserve authorizations (MRA), requests for bench stocks, supply points, load, change, delete organizational records, walk through requests, withdrawals from Defense Property Disposal Office, WRM withdrawals; participate in meetings, councils, boards, and on teams; provide inventory assistance, respond to customer inquiries; review status on various materiel management programs.

PLANNING AND PROGRAMMING: Advise personnel on programs; approve/disapprove: program management plans (PMP), program management directives (PMD), inputs to Program Objective Memorandums (POM); assess impacts of programs; conduct studies and compile information on programs; determine requirements for program support; develop plans, controls, organizational structures, and strategies for programs; draft/write necessary correspondence or inputs; evaluate plans or programs; participate in meetings, councils or task forces to support plans and programs; review documents and inputs.

PERFORMING MATERIEL CONTROL-UNIT SUPPLY FUNCTIONS: Approve/disapprove bench stock adds/deletes and special shipment codes; assess MICAP incidents; certify MICAP verification checklists; conduct bench stock reviews; coordinate parts cannibalization; investigate parts status; forecast time change requirements; justify high priority, initial issue and sole source requests; monitor bench stock fill rates and MDR items; perform custodial functions; prepare special level requests; process due out releases; reconcile TOCO kit requirements; request supply points; review special levels, delayed discrepancies, and due-out cancellations; screen and review withdrawals from DPDO; verify priority requests.

PERFORMING EQUIPMENT MANAGEMENT FUNCTIONS: Advise various equipment requirements boards and activities; approve/disapprove equipment requests, authorizations, redistributions, changes to tables of allowance (TA's); coordinate redistribution of equipment; determine equipment allocations and support requirements; develop Command Equipment Management Team (CEMT) schedules; establish equipment reporting procedures; evaluate equipment utilization and distribution; forecast WRM requirements; maintain TA's and files; monitor associated equipment activities; participate in meetings, visits, and reviews; review reports, equipment accounts, equipment status and excesses, and equipment requests; validate and verify authorizations.

PERFORMING COMPUTER SYSTEMS FUNCTIONS: Analyze or research software discrepancies; conduct software conversions and studies; analyze output; convert nonautomated reports to automated reports; coordinate with programmers and data automation personnel on modifications to the system and system matters; define functional requirements for software development; develop evaluation/validation tests, systems configurations, project plans, directives, requirements

documents, procedures for operation, and milestones for system modification; draft/write necessary correspondence; evaluate the systems; field test new systems or programs; implement data systems modifications, changes or conversions; input data into systems; monitor conversions and report distribution; prepare work requests; prioritize and review requirements, computer time allocations, cost accounting, manpower utilization reports, schedules, DAR's, PAR's, system design, MAJCOM automated program (MCAP); troubleshoot program problems; write computer programs.

PERFORMING COMMAND AND SUPERVISORY FUNCTIONS: Administer nonjudicial punishment; advise personnel on career matters and subordinates on unit policies or procedures; approve/disapprove basic allowance for subsistence, civilian appraisal reports, drug or alcohol rehabilitation regimens, duty schedules, leaves or passes, promotion, demotion, or reclassification actions, purchases at clothing sales, off-duty employment requests, requests for personnel to attend educational courses, TDY orders; make personnel assignments; brief commanders; certify time cards and travel vouchers; conduct visit orientations and commander's calls; coordinate with outside agencies; counsel personnel, determine work priorities; draft/write personnel reports, ratings, position descriptions, position justifications, recommendations, requests, responses on personnel, job, and unit activities; establish leave policy; evaluate various personnel actions and requirements for quality of life/force; forecast leave schedules; indorse communications/reports; interview personnel; monitor programs; organize functions; review personnel actions, reports, recommendations, and police blotters.

PERFORMING RESOURCE MANAGEMENT FUNCTIONS: Allocate personnel, equipment, financial resources; analyze budgetary requirements, trends, operations; approve/disapprove actions on the stock fund, budget submissions, funds allocations, personnel requests; certify funds availability; coordinate with various agencies and organizations; determine manpower requirements and funding of new programs; develop budget guidelines, estimates; draft/write necessary correspondence; establish priorities; justify budget submissions to national level agencies; participate in various resource management meetings; report expenditures; prepare programs; request changes to budgets, manpower studies; respond to inquiries; review documents on personnel and financial matters; validate application of manpower studies.

PERFORMING FUELS MANAGEMENT FUNCTIONS: Analyze terminal loss listings; approve/disapprove product identity changes and vehicle servicing requests; arrange replacement-in-kind fuel shipments; certify cash fuels sales; compile fuel forecasts; conduct studies, training, inspections; coordinate support plans, maintenance of vehicles, QC problems, with foreign government personnel, fuels shipments; determine cause, effect and corrective action on fuel spills, sources of supply; develop plans and programs; ensure sufficient inventories; implement energy conservation programs; perform inspections; investigate aberrations in operations; justify requirements; monitor transactions, reports, programs, combat turns, performance and operations; participate in planning and conservation programs; prepare necessary reports; respond to energy questions and fuel incidents; review AF Forms, DD Forms, AFTO Forms, flying schedules, vehicle status, directives, reports, schedules; track energy conservation trends.

PERFORMING MUNITIONS MANAGEMENT FUNCTIONS: Approve/disapprove special level requests for munitions, disposition requests, immediate consumption requests; attend scheduling meetings; brief commanders/custodians; conduct training, inspections, inventories; evaluate procedures and programs; manage key control, entry or access; monitor time change requirements, execution of preplanned movements of conventional munitions; post records; prepare status reports; submit status reports, forecasts; review authorizations, storage areas, supply point accounts, reverse post actions; submit status reports; validate AFTO Form 102 postings, loading WRM levels, procurement of stocks, or exception codes, requestor authorizations to draw munitions; verify processing actions, issues, shipments, receipts, movement planning; visit work centers.

INSPECTING AND EVALUATING: Approve/disapprove inspection checklists, responses to inspection or evaluation reports; attend meetings; augment evaluation teams, brief inspection findings; conduct follow-up actions on reports, inspections, post-post exercises, visits; determine corrective actions; develop inspection criteria and techniques; draft/write correspondence; evaluate inspections, exercises, capabilities; initiate corrective actions; review reports, checklists; schedule activities; validate inspection findings.

PERFORMING CONTINGENCY, MOBILITY, AND EXERCISE FUNCTIONS: Analyze wartime contingency manpower shortfalls; approve/disapprove inputs to plans, recall or duty rosters; build up and tear down of mobility bags; conduct disaster preparedness training; coordinate reserve requirements and supply taskings; determine personnel requirements for plans and exercises; develop unit contingency plans; draft/write necessary correspondence; establish mission support kits and supply accounts at remote locations; evaluate plans; identify

limiting factors, locations, requirements; issue/store mobility bags; monitor cargo marshalling, personnel processing; WRM levels; participate in meetings, exercises, reviews; perform command post, battle staff, and Supply Control Center duties; review changes to plans and reports; select personnel for deployment; task other units; verify input data.

PERFORMING CONTRACT INTERFACE FUNCTIONS: Analyze quality assurance evaluators (QAE) inspection results; approve/disapprove data items; conduct quality assurance evaluations; consult or review contractor manuals, defense acquisition regulations; coordinate work statements and modifications with contractors; determine contractor support requirements; develop quality assurance plans for QAE's; draft/write necessary correspondence; evaluate bids, proposals contract data; initiate follow-up actions; issue warnings, memos, and evaluation reports; participate in meetings, conferences, boards, councils, and reviews; make recommendations; provide inputs to contractor default cases; review reports, proposals, and other correspondence.

PERFORMING PROJECT/PROGRAM MANAGEMENT FUNCTIONS: Analyze program or project data; approve/disapprove documents, directives, reports, plans, waivers; calculate resources for projects; collect project data; conduct reviews, cost analysis; coordinate for and with program management responsibility transfer (PMRT), requirements for training, statements of need, managers, engineers, and contractors; design cost models; determine applicability of military standards, project methodology, and feasibility; develop inputs, plans, performance specifications, milestones, product verification renewals, suggest approaches to projects, test plans; draft/write necessary correspondence; evaluate aspects of projects; maintain project logs, folders; participate in meetings, reviews, tests, develop meetings; prepare inputs, updates; project impact of project; make recommendations; request evaluations; conduct research; schedule tests, conversions, implementations; track costs, milestones; verify simulation or analytical models.

TRAINING: Administer tests; approve/disapprove course curricula, reviews, training quotas; arrange guest lecturers, training transportation; conduct classroom, mobility, OJT, proficiency, supply customer training; coordinate with functional managers and training managers; counsel trainees; design course curricula; determine availability of training courses, policy, requirements; develop classroom training programs, OJT programs, training aids, unit programs, volume review exercises; draft/write inputs to training programs, lesson plans, training reports, tests; establish/maintain study reference files; evaluate trainees, requests, and programs results; maintain training records; recommend revisions; request training quotas/assistance; review reports, programs, critiques, materials; schedule class tours/training; score tests; serve on thesis boards; validate training requirements.

PERFORMING SECURITY ASSISTANCE FUNCTION: Advise representatives of foreign governments on logistics functions; approve/disapprove visit requests; compute support costs and materiel requirements; conduct financial and management reviews of FMS; coordinate correspondence and activities; determine requirements; draft/write necessary correspondence; establish FMS supply operations policies; identify excess articles for sale to foreign nations; investigate problems; maintain case files; monitor deliverables; negotiate LOA's; participate in conferences and reviews; perform inventories of grant aid materials; prepare amendments and instructions; provide assistance and information; recommend redistribution; serve as host to foreign visitors.

Appendix B: Response Data

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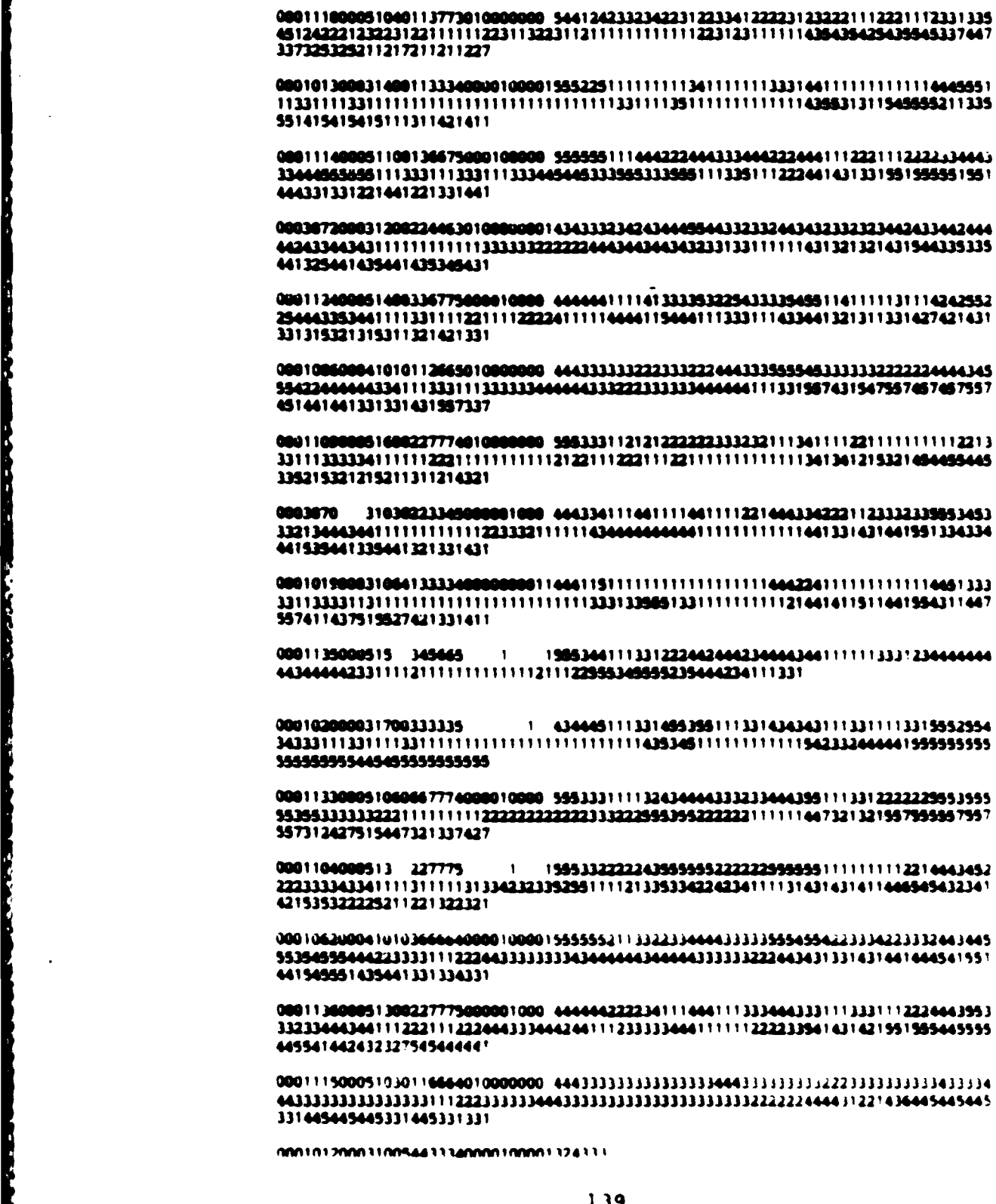

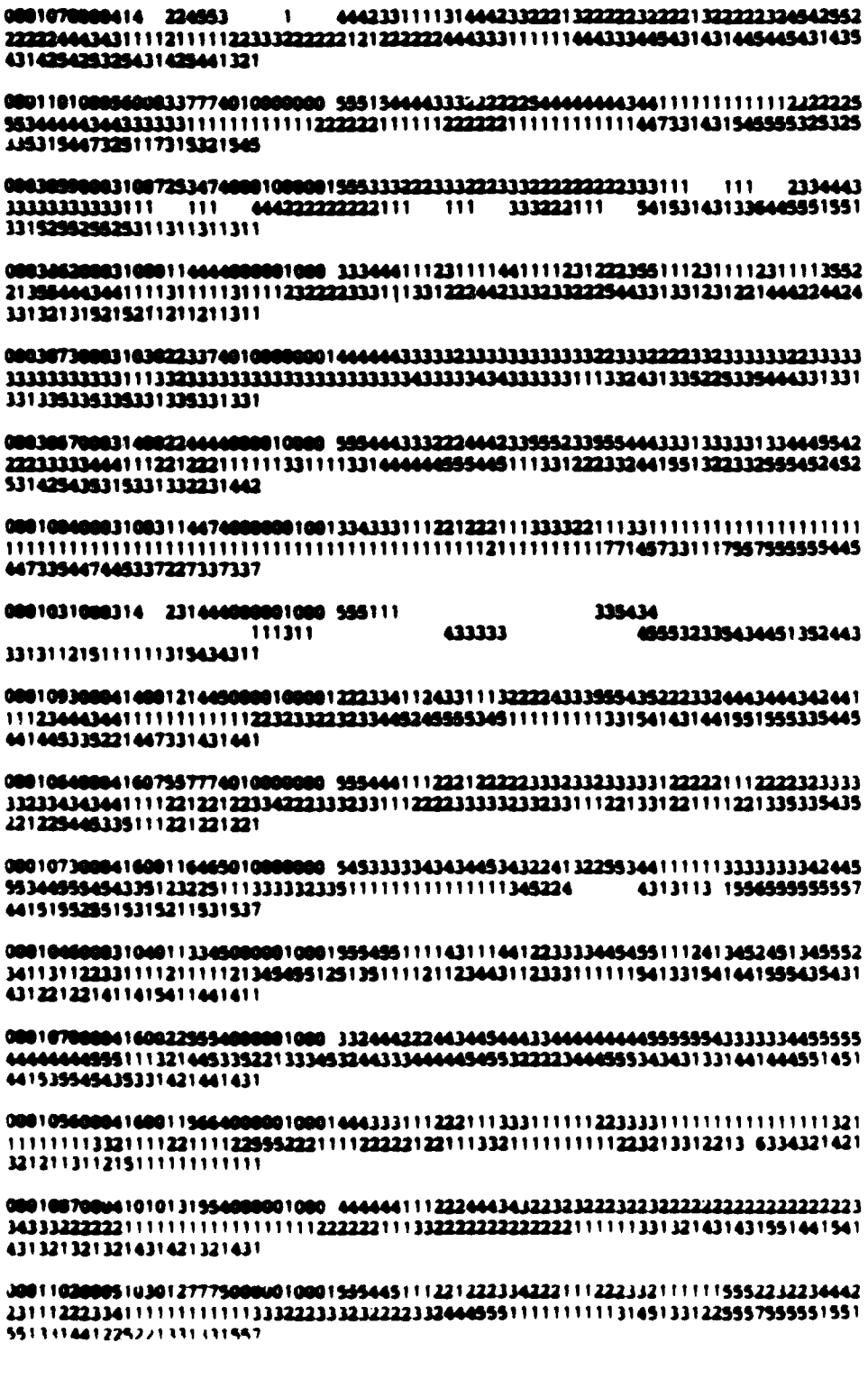

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Vita

Major Anthony S. Yaskin graduated from Newberry College in 1974 with a Bachelor of Arts degree in English and Political Science. He was commissioned through ROTC. During his twelve years on active duty, he has held numerous base-level supply positions. Prior to attending AFIT, he was the Operations and Training Division Chief for the Logistics Technical Training Group at Lowry AFB, Colorado. Prior to that position, he was Chief of the Supply Technical Training School and an instructor. Following graduation, he was assigned as an exchange officer with the Royal Air Force in England.

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Title: AN EVALUATION OF THE EFFECTIVENESS OF THE AIR FORCE INSTITUTE OF TECHNOLOGY'S SUPPLY MANAGEMENT OPTION AS PERCEIVED BY OPTION GRADUATES

Thesis Chairman: Dr. Dennis E. Campbell
Associate Professor of Logistics Management
School of Systems & Logistics

Approved for public release: IAW AFR 190-1.
JOHN E. WOLAVER 24 April 87
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This research effort measured the effectiveness of the Air Force Institute of Technology School of Systems and Logistics Supply Management Option. Graduates provided feedback and data on the usefulness of their graduate education in the performance of supply duties. The target population was all supply officers who graduated from AFIT and are currently on active duty in supply jobs. This population was divided into two subpopulations: supply management option graduates and non-supply option graduates. Surveys were mailed to the 168 supply officers who have graduated from AFIT. The response rate was 61.3 per cent with 103 of the surveys returned. The survey consisted of three parts. Part I was biographical data; Part II included questions on supply tasks ; and Part III involved questions on skills, concepts and techniques learned at AFIT. The data were analyzed using a mean score differentiation for each of the questions from Parts II and III of the survey. The differences between the two subpopulations were analyzed, along with the differences of the mean scores within the subpopulations. Research results indicate that there is little difference between the usefulness of the supply option and other options taken by supply officers. The results indicated the supply management option was effective.

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