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AN ANALYSIS OF THE PERCEIVED USEFULNESS OF THE SCHOOL OF SYSTEMS AND LOGISTICS GRADUATE MANAGEMENT PROGRAMS TO THE CIVILIAN ATTENDEES

THESIS

Claudia N. H. Theis
GS-13

AFIT/GLM/LSM/86S-85

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AN ANALYSIS OF THE PERCEIVED USEFULNESS OF THE SCHOOL OF SYSTEMS AND LOGISTICS GRADUATE MANAGEMENT PROGRAMS TO THE CIVILIAN ATTENDEES

THESIS

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

Claudia N. H. Theis, B.A.
GS-13

September 1986

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Abstract

The adequacy of AFIT's Graduate Management Programs for the civilian attendees had not previously been studied. This study assessed the adequacy of these programs for the civilian attendees via surveys mailed to the civilian graduates and their present supervisors. Information on demographics, perceived usefulness of the types of information taught within the Graduate Management Programs, and ways to improve the programs was gathered and analyzed. Recommendations were made to (1) standardize the application, selection and thesis reimbursement procedures across all major commands; (2) have AFIT publicize the Graduate Management Programs in order for them to be better known to the Air Force at large and civilians in particular; (3) supervise the thesis advisors to ensure the theses are of benefit to the USAF or DoD; and (4) provide more practical application of the theories presented to the military environment using current documents generated by different programs offices in different stages of weapon system support. Recommendations for future research were to (1) analyze the Physical Distribution Management and Maintenance and Production Management courses to determine if they should be changed or deleted; (2) analyze the feasibility of career monitoring and qualifying graduates of AFIT's

Graduate Management Programs as "Logistics Management Specialists", job series 346; (3) analyze the career progression of the civilian graduates to determine their rate of promotion compared to those who have not attended AFIT's Graduate Management Programs; and (4) analyze the thesis process to restructure it to provide the greatest benefit to the USAF and DoD.

AN ANALYSIS OF THE PERCEIVED USEFULNESS OF THE SCHOOL OF SYSTEMS AND LOGISTICS GRADUATE MANAGEMENT PROGRAMS TO THE CIVILIAN ATTENDEES

I. Introduction

An overview of the thesis is presented in Chapter I. A brief background of the training of civilians by the Department of the Air Force and the Air Force Institute of Technology (AFIT) is followed by a justification for the thesis. The research objectives and research questions are then stated. The scope of the thesis concludes the chapter.

Background

As jobs to be performed by civil servants within the federal government change, qualifications required to perform those jobs also change. One way to meet the challenges of this changing work environment is by training those already employed. This option is shown in the following statement from Air Force Regulation (AFR) 40-410, Training and Development:

> ...The Government Employees Training Act, 7 July 1968,...is the basic statute authorizing federal employee training. The Congress in enacting this law declared it to be the policy of the Congress that '...it is necessary and desirable in the public interest that self-education, self-improvement, and self-training be supplemented and extended by government-sponsored programs for

> training in the performance of duties and development of skills, knowledges, and abilities which will best qualify employees for performance of official duties.' [In addition,]...It is Air Force policy to provide the training necessary to ensure the maximum efficiency of civilian employees in the performance of their official duties. (8:1)

Therefore, training is justified to be provided to federally employed civilians at government expense (8:1;10:1-1, 2-1-2-2), although obtaining an advanced academic degree (AAD), unless incidental to the program, is prohibited (8:9). The probability that a civilian will continue in the career field for which he or she has been trained is quite high since a civilian cannot use education reimbursed by the government to cross train into another career field (8:5). Even with the restriction imposed by AFR 40-410 concerning the attainment of an AAD, a small number of civilians has been in each class of AFIT's School of Systems and Logistics since its Master of Science degree was accredited by the North Central Association of Colleges and Schools in 1963 (7:4;22;25).

Justification and Problem Statement

AFIT's School of Systems and Logistics grants a Master of Science degree in the areas of Logistics Management, Engineering Management, and Systems Management to military and civilian attendees (1:180). Though the adequacy of the management programs for the military attendees has been researched several times, each study has either specifically

excluded the civilian population or has not addressed the degree to which AFIT is meeting the civilians' particular needs (7:12;12:10;13:8-9;15:11;16:6;17:7). One thesis investigated the career progression and education of civilians within AFLC, but limited the study to the GS-14 and above levels and did not specifically address the overall career progression of graduates of the School of Systems and Logistics Graduate Management Programs (29:9).

Research Objectives

The objectives of this thesis were twofold:

1. To address the usefulness and applicability of AFIT's School of Systems and Logistics Graduate Management Programs specifically for the civilian attendees; and

2. To determine whether or not these programs are meeting the requirements established in AFR 40-410 and AFR 40-418, Manager Training and Development, in preparing "...selected...", "...high potential..." civilians "...for...positions of greater responsibility..." (8:9; 10:1-2,2-2).

Research Questions

In support of these research objectives, the following questions were developed:

1. Do civilian graduates of AFIT's School of Systems and Logistics perceive the program as preparing them "...for...positions of greater responsibility..."?

2. Do supervisors perceive civilian graduates of AFIT's School of Systems and Logistics as being better prepared "...for...positions of greater responsibility..." than those who have not attended these AFIT programs?

3. Do civilian graduates of AFIT's School of Systems and Logistics perceive the program as being useful in their current positions?

4. Do supervisors of civilian graduates of AFIT's School of Systems and Logistics perceive the program as being useful in their employees' current positions?

5. Does AFIT's School of Systems and Logistics meet the educational requirements of AFR 40-410 and AFR 40-418 in that AFIT prepares civilians "...for...positions of greater responsibility..."?

6. What could be done in the way of additions, deletions, or corrections to the present curricula to improve the programs for the civilian attendees?

Scope

The purpose of AFIT's School of Systems and Logistics Graduate Management Programs is to prepare attendees to be better and more effective managers (1:181). The primary emphasis of this thesis concentrated on the civilian graduates of the three Graduate Management Programs which are offered by AFIT's School of Systems and Logistics since accreditation of the Master of Science degree in 1963. All

military, any civilian who completed the course work but was not granted the Master of Science degree, and any civilian who may have separated or was a non-Air Force alumnus were excluded from this study. The results of this study may be used by the Graduate Logistics Management, Graduate Systems Management, and Graduate Engineering Management program managers to assess a need to change the existing curricula. In addition, the civilian personnel system may benefit from the results of this study by revising current methods of career management to take better advantage of those individuals who have graduated from these three programs.

The usefulness of these programs to the civilian attendees may be assessed in several ways. The method selected was to obtain information from those who are most familiar with the course work and product of the AFIT School of Systems and Logistics: the graduates and their supervisors.

II. Literature Review

History of AFIT

AFIT's had its beginnings in 1919 with the establishment of the Air School of Application, McCook Field, Dayton, Ohio. Its name changed several times. In 1947, in consonance with the establishment of the Air Force as a separate service, the school became the Air Force Institute of Technology. Originally, AFIT was under the jurisdiction of Air Materiel Command, but in 1951 jurisdiction was transferred to Air University, Maxwell Air Force Base (AFB), Alabama, though AFIT itself remained at Wright-Patterson AFB, Ohio (1:2).

History of AFIT's School of Systems and Logistics

Air Force logistics education programs were established in 1955 under a contract with the Ohio State University. The earliest professional continuing education courses in logistics began in 1958 under the Air Force Logistics Command (AFLC) Education Center. During that same year, the School of Logistics became part of AFIT (1:2).

In 1954 the 83d Congress of the United States granted Air University permission to confer degrees to those persons attending the AFIT Resident College. In 1963 the School of Logistics was renamed the School of Systems and Logistics. The North Central Association of Colleges and

Schools accredited its Master of Science degree programs the same year (1:2-3;7:4). Of particular note is the fact that the "Systems" management program was a part of the Engineering School until 1979 when it was transferred to the School of Systems and Logistics (25).

Review of Related Research

In researching the interaction of civilians and AFIT's School of Systems and Logistics, the author immediately noted that though civilians have been an integral part of the ongoing educational process of this school (1:3,178), this fact is not well published. A review of the periodical literature since 1950 contained within the Air University Periodical Index, the Defense Technical Information Center, and the Defense Logistics Services and Information Exchange focused on the following key words or phrases: AFIT, Career Planning, Civil Service, Civilian Employees, Education, Logistics, Management (Improvement), and Management (Military). Only the Air Force Journal of Logistics, which began publication within the last six years, published any relevant information (14;21;23;24;34;35;36). The Central Civilian Personnel Center at Randolph AFB, Texas, which publishes a regular column in the Air Force Journal of Logistics did not, until the Fall 1985 issue, give any attention to the use of long-term, full-time (LTFT) training, and AFIT's Graduate Management Programs in

particular, as ways to meet an individual's educational requirements, either in a current position or in preparation for another position. Ms. Lynda Wampler, the Logistics Civilian Career Enhancement Program career monitor within the Central Civilian Personnel Center (OCPO/MPKCL) was the author. Ms. Wampler's description did not go beyond the description in AFR 40-410 which merely listed the locations from which training could be obtained, namely, the National War College, Air War College, Air Command and Staff College, Industrial College of the Armed Forces, Armed Forces Staff Colleges, Air Force Institute of Technology, and the Defense Systems Management College (8:9;36:7). The article contained a technical error, in that she stated the final selection of an individual to attend the Graduate Management Programs as resting with AFIT. In reality the final selection of attendees rests with the major command and OCPO/MPKCL (36:7).

Mr. Eugene Peer wrote two articles for Air Force Civil Engineer addressing the use of additional education in the career progression of civil engineers (27;28). However, neither article addressed AFIT's Graduate Engineering Management program as a way to meet the educational requirements needed to advance in the civil engineering field.

In an attempt to further establish the interrelationship of AFIT and its civilian students, the author tried to find a public law, directive, or regulation which gave

civilians permission to attend AFIT's Graduate Management Programs. Mr. Harold E. Lillie, Special Assistant to the Director of Admissions (AFIT/RR), and Mr. Robert K. Burns, Chief of Management and Career Progression with Aeronautical Systems Division (ASD/DPCTM) were the only helpful resources. These individuals have been in their organizations for 35 and 26 years, respectively. Neither individual knew of any written authorization either permitting or denying civilian personnel the right to participate in any of AFIT's graduate programs (4;20). Mr. Lillie, who was on active duty at the time, stated that a verbal agreement in the 1950-1951 time frame between the commander of the Air Materiel Command and the commander of the Air Research Development Center first permitted civilians, primarily those at Wright-Patterson AFB, to attend AFIT (20). Thus, civilians seem to have "happened" to AFIT, which may partially explain why each new Commandant (20), military classmates, and individuals attending Professional Continuing Education courses, who are not aware of the 1950-51 verbal agreement and AFRs 40-410 and 40-418, question the civilians' purpose in attending the graduate school in residence.

To date, one of the primary reasons for sending civilians to AFIT's School of Systems and Logistics Graduate Management Programs is that no civilian institution offered a graduate program in military logistics management. There

are several colleges and universities offering degrees in logistics management, such as Weber State College in Ogden, Utah, (undergraduate) and Wright State University, in Dayton, Ohio, (graduate) (2:62;18;19). The Wright State University (WSU) Master's program in Logistics Management is accredited within WSU's College of Business and Administration by the American Assembly of Collegiate Schools of Business (6;18;19), and has as its primary goals the following:

1. To provide the opportunity for those unable to attend school on a full time basis, such as AFIT, with classes scheduled to meet almost anyone's needs; and

2. To provide an insight into the military world for those commercial firms who may now or in the future have business with the government.

Paul Zinszer's study conducted for the Council of Logistics Management attempted to locate schools "...where training in logistics and physical distribution is presently occurring..." (38:2) at either the undergraduate or graduate level. The primary problems with this study were as follows:

1. No attempt was made to arrive at a standard definition of logistics against which each school's program could be judged;

2. The concepts of logistics and physical distribution are broadly defined as equivalents as opposed to

physical distribution being a subset of logistics;

3. Surveys were sent only to schools which had published their offering of a degree in either logistics or physical distribution, or from whom there had been "rumblings" that some sort of logistics program might be offered in the future. Interestingly, Wright State University was not included in the study though this study was conducted in the 1984 time frame--after the WSU program had begun.

Other Issues

There are other situations which appear to affect the civilian attendees and subsequent graduates which do not occur with the military attendees. The first area centers around the notification of those civilians selected to attend. At times, notification may be as late as one, perhaps one and a half, months before the school year is to begin. Students who are not from the Wright-Patterson area may experience hardship in making living arrangements upon such short notice.

A second area of concern is the lack of recognition on the part of the civilian personnel system of those individuals attending the Graduate Management Programs. For example, the designation of the completion of the AFIT Graduate Management Program is 2680 hours of "training". The official files of a civilian cannot reflect a Master of Science

degree until the graduate takes in a copy of the diploma along with a completed Standard Form 172, "Supplemental Experience and Qualifications Statement" (5). Secondly, the civilian's career brief shows the accumulation of work experience continuing at his or her home organization; there is no indication of the 15 month separation for which the home office receives no benefit from the individual (5). Thirdly, by retaining the individual's appraisal rating received just before entering AFIT's Graduate Management Programs, the appraisal system inaccurately describes the true status of the individual while attending AFIT. This practice has the potential of penalizing, instead of assisting, an individual with respect to promotion. The most recent guidance for Aeronautical Systems Division personnel which confirms the appraisal practice is contained in a letter dated 20 June 1986 from ASD/DPC and is shown in Appendix F. In response to the question, "How are employees on Long-term Full-time (LTFT) training rated?", the answer was

> The rating of employees on LTFT continues from the prior rating cycle through the current rating cycle if the employee has not served for 90 continuous days in their position during current cycle.

Therefore, the current status of the individual, as shown by his or her academic performance, is deemed "Not Applicable", but the previous appraisal rating, already 12 months old, is. Finally, the Air Force Form 475 Training

Reports issued by AFIT on each student are not recognized by the civilian personnel system (5). This Training Report could be one way to indicate the accomplishments of the individual while participating in LTFT training, and could also reflect the separation which the home organization has experienced.

One last issue centers on the application and selection process for AFIT's Graduate Management Programs. Within the guiding regulations for civilian training and development, there is no specific information as to how a civilian is to apply for the graduate programs at any of the AFIT schools (8;10), as compared to the military who are guided by standardized instructions contained in AFR 30-19, Advanced Academic Degree (AAD) Management System (9). Though the Air Force is committed to training its civilians to reduce shortfalls in required skills (3;8;10), emphasis has not been given to LTFT training as a means to meet the shortfall (14;21;23;24;34;36), and the process whereby civilians are to be selected to attend the Graduate Management Programs appears not to be standardized across all major commands.

III. Methodology

Construction of Surveys

Sonquist and Dunkelberg, in Survey and Opinion Research, state one of the reasons for conducting a survey is to collect "...information relevant to the evaluation of the effect of a program of action..." (32:3). The primary objectives of this thesis were the following:

1. To collect information from the civilian graduates and their supervisors to evaluate the usefulness and applicability of AFIT's Graduate Management Programs; and

2. To determine the effectiveness of AFIT's Graduate Management Programs in meeting the objectives of AFRs 40-410 and 40-418.

Since this study was primarily descriptive in nature, it lent itself, as Sonquist and Dunkelberg state, to "...be concerned with such complex phenomena as needs, attitudes, and opinions." (32:2) The data focused on 1) the opinions and attitudes the graduates and their supervisors had regarding AFIT's Graduate Management Programs, 2) the graduates' and supervisors' suggestions for improving the programs, and 3) an assessment of the achievement of the goals of AFRs 40-410 and 40-418 as measured by the promotion information provided by the graduates.

The choice for conducting a survey for this thesis was between a telephone interview and a mailed survey. A

review of the literature on the effectiveness of the two preferred methods of data collection helped determine the choice.

Each medium requires the formulation of a specific list of questions to be asked each respondent. Concerning data collection, Parten, in Surveys, Polls, and Samples: Practical Procedures, stated the following:

> One important difference between [surveys] presented by interviewers and those sent by mail... [is that] in the former case, the presented questions may be orally interpreted or rephrased by the interviewer and so rendered intelligible to any informant, whereas in the latter case such flexibility doesn't exist. (26:383)

The mailed survey has the potential of strong non-response bias but is the most cost effective method if the projected respondents are dispersed over a large geographic area. This was the case with this thesis. The mailed survey also allows respondents to take as much time they like to answer the questions (11:307-8;30). The mailed survey would also be the most efficient method. Time spent on a telephone survey of all the graduates and their supervisors would be extremely difficult given the constraints of time, access to government phones, and the availability of the individuals.

The design of the survey itself had to take into consideration the physical appearance of the survey along with the development of the questions themselves. As Sonquist and Dunkelberg stated:

> ...clearly, an error at the design stage...(if uncorrected before the final version of the questionnaire goes out to the field)--would be very costly and very likely uncorrectable. (32:7)

Parten emphasized strongly the

> ...careful planning of the physical design of the [questionnaire] and careful selection and phrasing of the questions [which] will affect not only the number of returns but also the meaning and the accuracy of the findings. (26:157)

To assist in the development of survey instruments, Parten listed the following guidelines:

1. Use simple words.
2. Make questions concise.
3. Formulate the question to get an exact answer.
4. Avoid double-barreled, ambiguous, leading questions.
5. Avoid 'danger' words, i.e., words that may have a negative connotation even though the word in and of itself is neutral in meaning.
6. Decide whether to use indirect questions.
7. Be cautious in the use of a phrase which reflects on the informant's prestige.
8. Decide whether or not to personalize, i.e., 'I believe that...'.
9. Allow for all possible responses.
10. Keep handwritten responses to a minimum. (26:200-213)

The physical layout of the survey was an important consideration because

> ...The appearance of the questionnaire is much more important in the mail survey...since the impression gained from a hasty glance to the form

may determine whether or not an attempt will be made to answer it. (26:383-4)

To assist in this matter, the author decided to have the surveys printed by a letter quality printer instead of a dot matrix printer. The assumption was there might be those individuals who felt intimidated or insulted by the increased use of computer generated correspondence. A survey which looked as if it had been typed the "old-fashioned" way would give a more professional impression of the author and was, therefore, deserving of a response on the part of the recipient.

The development of the questions themselves had to address two areas: the length of the survey itself and the type of information to be gathered. The data collected had to be flexible enough to meet the needs of the author if certain parameters within the investigation changed or data needed additional analyses (32:7). The length was a consideration since "...the more items on the [survey], the greater the chance that the informant will skip over any one item." (26:385-6) One rule of thumb is that it should not take an individual more than ten minutes to complete the survey, though other research has shown that a response rate of 70% has been achieved with a survey of 158 questions (11:308;30).

The primary baseline sources for the questions used in the Graduate and Supervisor Surveys were from the surveys

developed by Captains Crowder and Davidson for their thesis An Analysis of the Usefulness of the Graduate Logistics Program as Perceived by Alumni and Their Supervisors, and Captains Gillette and Wayne for their thesis A Measurement of AFIT Contracting and Acquisition Management Program Usefulness as Perceived by Graduates and Their Supervisors (7:62-87;13:117-140). With these examples as a foundation, questions were either revised, deleted, or kept as they were, while new questions were developed to address issues peculiar to this thesis effort. The actual layout of the surveys was revised from the previous examples to maximize ease of response. The layout is discussed in the Pretesting of the Survey Instruments section.

Data Collection

The method of data gathering was via mailed surveys to two populations: the civilian graduates of AFIT's School of Systems and Logistics Master's Degree programs since 1963 and the graduates' immediate supervisors. To facilitate locating the graduates' supervisors, each graduate was mailed both surveys and instructed to give the Supervisor Survey to his or her immediate supervisor.

To address Research Questions 1 through 4 a seven point Likert scale as shown in Fig. 1 was used to obtain responses regarding the perceptions the graduates and their supervisors had as to the usefulness of AFIT's Graduate

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Fig. 1. Sample of Likert Scale Used in Both Surveys

Management Programs. Multiple choice questions collected demographic and screening type information to address Research Question 5, and the open-ended questions collected information to address Research Question 6.

Pretesting of the Survey Instruments

Since the population to be studied was of limited size, it was decided not to pretest the surveys on a portion of the actual population. In this way prejudice on the part of the respondents when they received the actual survey or their elimination from the actual study was avoided. Each of the surveys was pretested on a sample of individuals with similar characteristics to the populations to be studied.

The Graduate Survey was given to six civilian students currently enrolled in the AFIT's School of Systems and Logistics Graduate Management Programs. Participation was voluntary, and five of the six surveys were returned with comments. The participants were asked to respond to the

following questions:

a. Are the instructions clear and concise?

b. Is the format of the survey pleasing?

c. Are the questions valid, i.e., are they in line with the purpose of the survey?

d. Is there sufficient space to write answers (Ref Part III of the survey)?

e. Is the length of the survey appropriate? too long? too short?

f. Are there any questions which you feel should be added? deleted?

g. Approximately how long did it take for you to complete the survey?

One recommendation was to add a "No change in status" category to several questions, e.g., Survey Question 5, "How many years after graduation from the AFIT Graduate Logistics Program did you achieve your current grade?". Several graduates wanted to know how the phrase "my job requires...", which was used to introduce the perceptual questions, was to be interpreted. That is, should the graduate interpret job requirements in light of his or her current position description or in light of what was really required of the job, whether or not it was addressed in his or her position description? Since AFR 40-410 states that "...training and development [is] for employees to perform at an optimum level of proficiency either in their current position or for a future assignment..." (8:5), it was determined that either interpretation could be valid. The indi-

vidual could be applying the knowledge gained at AFIT to better meet his or her current position description. The individual could be dealing with the realities of the job itself. In this case the position description should be updated to reflect the true nature of the job, or reflect the knowledge gained in preparation for a future assignment.

The only other major revision was to restructure the format of the "memory jogger" pages containing the names of the classes which graduates would have had to take. This is shown in Appendix A. The classes had been loosely divided between quantitative and qualitative. In the final format the two categories became four, namely, mathematical/quantitative (math/modeling required); management (general management courses); logistics (logistics related topics); and communication (speech/communications skill development). Throughout the years, a number of the courses only changed their names. Each subsequent name change was placed in the listing in order to assist the graduates in remembering the courses they had taken.

Since a concern of survey construction is the length of time it takes the individual to complete the survey, the graduates were asked approximately how long it took them to review and formulate an answer to all the questions. The average length of time to complete the multiple choice portions (Parts I and II) was ten minutes, well within the

recommended time period (11:308;30).

The Supervisor Survey was pretested on a sample of four individuals also similar in characteristics to the population to be studied without being a portion of the actual population to meet the criteria previously discussed. There were two military and two civilian individuals. Their familiarity with AFIT's Graduate Management Programs ranged from unfamiliar to very familiar. These participants were asked to answer the same general questions asked of the graduates.

A suggestion was made to eliminate the Likert scale following each question in favor of reformatting the response scale to make the survey less cumbersome. This would shorten the survey and increase the probability of receiving a response, i.e., a completed survey. Discussions with Dr. Charles R. Fenno, a member of AFIT's Department of Communication and Research Methods (AFIT/LSH), and Major John Ballard, a member of AFIT's Department of Organizational Sciences (AFIT/LSB), confirmed this observation. Both surveys were revised to their current format as shown in Appendices A and B. The revised format made each survey three pages shorter than the original.

The average length of time to complete Parts I and II of the Supervisor Survey was also ten minutes.

Locating Civilian Graduates

Locating the civilian graduates was difficult. Civilians are not entered into or accessed from the Air Force Manpower and Personnel Center's ATLAS data base in the same manner as the military. While the ATLAS data base contains information on all personnel associated with the Air Force, military or civilian, the use of the education code, which specifies an individual's major, is not reflected in the registration of civilians in the ATLAS data base. Due to regulation, if a civilian attends long-term, full-time training, i.e., the course is longer than 120 days, the civilian's servicing personnel office enters the information showing completed training in accordance with each major command's approved method. The only way to access the ATLAS data base in order to get the addresses of the desired population was obtain the Social Security Account Number (SSAN) of each graduate (4;20).

The lack of standardized practices within the registrar's office as to recording a civilian's SSAN complicated the search for graduates further. The search included reviewing the official listings of graduates of all AFIT programs, be they full or part time; an index card system; the official transcript file; and finally, the official folders of each individual.

The results of this search were as follows:

a. Of the 219 civilian graduates since 1963, 32 individuals had no SSAN on file with the registrar.

b. Of the remaining 187 individuals, 5 individuals, though still working for the Air Force, could not have their addresses released since they were working for a classified organization, and 54 individuals were no longer registered in the ATLAS data base indicating they no longer worked for the Air Force.

c. One individual, who did not have an SSAN on file, was located due to an active association with the school.

The search located a total of 129 graduates, and surveys were distributed to each of the graduates and supervisors for a total of 258 possible respondents.

Assumptions and Limitations

Unless a survey was returned, it was assumed that it had been delivered to the appropriate person. In addition, the study assumed the graduate followed the instructions requesting delivery of the Supervisor Survey to the immediate supervisor for subsequent completion.

The results of this study can be applied only to the population who were contacted and returned completed survey instruments. There has been no attempt to generalize the results to all graduates of AFIT's School of Systems and Logistics, nor to the civilian sector of the Federal work force at large.

Analysis Methodology

To reduce the possibility of incorrectly marking optical scan answer sheets, the data was collected on the sur-

vey instruments themselves. The author manually entered the data into data files for manipulation by the AFIT Academic Support Computer using the Statistical Package for the Social Sciences (SPSS-x) statistical analysis software. The initial analyses conducted were on the demographic data--graduate and supervisor--and the perception data--graduate and supervisor. The programs are presented in Appendix C.

The primary statistic of interest for the demographic data was a frequency count. This count was made for each category presented in Questions 1 through 9 on the Graduate Survey, and Questions 37 through 47 on the Supervisor Survey. The results are presented in Chapter IV.

The primary statistic of interest for the perceptual questions was the mode for Questions 10 through 47 of the Graduate Survey and Questions 1 through 36 of the Supervisor Survey. The Likert scale used to gather the perceptual data is considered an ordinal scale (11:274), i.e., it "...implies a statement of 'greater than' or 'less than' (an equality statement is also acceptable) without our being able to state how much greater or less." (11:122) The median statistic is usually used to provide a rank order of the respondents (11:123). However, the author was interested in determining whether or not the graduates and supervisors were more or less in favor of a knowledge or skill and not scores of an individual respondent. There-

fore, for purposes of this study the mode was the more useful statistic.

Since the statistical program would only select and print the first mode it encountered, the author examined each question to determine if there was a possibility of bimodal response sets. If there appeared to be a strong dichotomy between the responses on an individual question, e.g., a near even split between those who agreed and disagreed, further analysis on the same related questions, if applicable, was conducted. The results of the initial analyses are presented in Appendix D for the Graduate Survey and Appendix E for the Supervisor Survey.

A comparison was then made between the answers to similar questions on the Graduate and Supervisor surveys. The comparative study was conducted to discover what each group perceived to be their important needs; how these perceived needs differed or agreed with each other; and how successfully or unsuccessfully AFIT met those needs. Those questions which indicated disagreement were further analyzed. The results of these analyses are presented in Chapter IV.

IV. Analysis and Conclusions

Introduction

This chapter presents the results of the data collection and the analyses conducted. A summary of the survey responses is followed by the results of the individual questions themselves. The results of the data collection are presented in the following order: 1) demographic data; 2) perceptions as to the usefulness of AFIT's Graduate Management Programs; and 3) the open-ended questions. Each of these sections is subdivided to show the graduates' and supervisors' responses. Conclusions are presented immediately following the data results for those questions having nondescript responses. A summary concludes the chapter.

Survey Response Summary

Of the 129 survey packages mailed, three were returned as undeliverable, thereby reducing the population size to 126 graduates and 126 supervisors. The response total was 85 graduates (67%) and 72 supervisors (57%). These response rates were considered very good since the standard response rate for a mailed survey with no follow-up is 30% (11:308;30).

Only those supervisors who were well acquainted with their subordinates could comment on the applicability of the various courses and their subordinates' performance in those areas. A supervisor's survey was discarded if the

response to Question 45, which asked "I am well acquainted with the requirement's of my subordinate's job as well as his/her performance", was No"; there were two surveys discarded based upon this criterion. There were several graduate and supervisor surveys which were not fully completed. The reason for the incomplete surveys appeared to be either the survey pages sticking together as the individual turned the pages to complete the survey, or the pages were simply overlooked. In the case of two Supervisor Surveys, the pages requesting the demographic information were not included in the package, an error on the part of the reprographics center and not caught by the author prior to mailing the survey packages.

For all questions left blank, a "9" was inserted into the data base to indicate a "Missing" value to the analysis program and the balance of the answers were analyzed. When the analysis program encountered a "9", it adjusted the total number of responses to be analyzed for that question downward, thereby computing the required statistics using only valid responses to each question.

Demographic Data

Graduates. A profile of the graduating classes and the associated response rate of those persons contacted is presented in Table I. As was indicated earlier, locating civilian graduates was a rather complex process. As can be seen for the years 1963 and 1966, no SSANs were found, and

TABLE I

Profile Of Responses By Class Year

Class Year	# in Class	# SSANs Found	# in ATLAS	Total Response	% Response (Contacted)
1963	3	0	N/A	N/A	N/A
1964	6	1	1	1	100%
1965	5	1	0	N/A	N/A
1966	5	0	N/A	N/A	N/A
1967	8	1	1	2*	200%
1968	8	5	1	0	0%
1969	5	5	2**	1	50%
1970	6	6	4	3	75%
1971	7	7	6	4	67%
1972	9	8	3	3	100%
1973	8	6	2	2	100%
1974	9	9	7**	3	43%
1975	9	9	6	2	33%
1976	10	9	8	6	75%
1977	7	6	5	3	60%
1978	18	18	14**	10	71%
1979	17	17	12**	6	50%
1980	25	25	17	12	71%
1981	10	10	8	4	50%
1982	13	13	9**	5	56%
1983	10	10	8	4	50%
1984	10	10	6**	6	100%
1985	11	11	9	7	78%
Missing***				1	100%
TOTAL	219	187	128	85	N/A

*Though no SSAN was on file, one member of this class was located through association with the school.
**These classes each had one individual currently working in a classified organization; the addresses of these individuals could not be released, making them unavailable for this research effort.
***One survey did not have the graduation year marked.

there was no response from the one individual located in the 1965 class year, thus leaving a gap in the data which might have been gleaned from these three years. Starting with 1978, there were complete SSAN records, though there was still no class for which 100% of the graduates could be located. The class of 1980 had the most respondents. Overall, 20 out of 23 years are represented within this study.

The Air Force civilian training policy stated in AFRs 40-410 and 40-418 is to train selected individuals for positions of greater responsibility. To assess achievement of this policy, questions were asked regarding the individuals' grade upon entry into AFIT, their current grade, and how long it took them to achieve their current grade. The results of these three questions are presented in Tables II and III. If the individuals selected to attend AFIT meet the criterion of possessing the quality of high potential, it was hypothesized the AFIT Master's Degree would assist them in achieving their potential and would be indicated by one or more promotions since their graduation. On the whole this hypothesis was borne out by the data, i.e., though individuals were between the groupings of GS-5 to GS-10 through the GS/GM-13 level upon entry, the lowest current grade was a GS-12 and the highest was in the GS-16-18/Senior Executive Service (SES) level, indicating progress towards positions of greater responsibility.

There was an unexpected trend discovered in Tables II

and III. The majority of AFIT graduates were GS-12s during their studies; the preponderance of graduates are now only GS/GM-13s, an increase of only one grade. In addition, the majority of the graduates took over five years to attain their current grade with the second highest response being "No change in grade".

TABLE II

Grade Profile of AFIT Graduates
(Total Number of Respondents for Each Grade Category)

	Grade When Entered	Current Grade
GS-5 to GS-10	5	0
GS-11	17*	0
GS-12	44	19
GS/GM-13	19	35**
GS/GM-14	0	22
GS/GM-15	0	6
GS-16-18/SES	0	3

*Includes a WS-12.
**Includes a WS-18.

To determine whether or not the grouping of grades could be attributed only to recently graduated classes who might be expected to still be in the process of attaining the next grade, e.g., classes 1980 through 1985, the entering and current grades for all graduates were analyzed. No clear trend was found to exist between graduation year and current grade, i.e., the longer the length of time since graduation did not necessarily "guarantee" a series of promotions. As an example, one individual has not been

promoted since graduation 14 years ago, while others who have graduated since 1980 have already been promoted two grades. This finding may warrant further investigation to determine if the intent of AFRs 40-410 and 40-418 are being implemented.

TABLE III

Length of Time to Achieve Current Grade

Years	# of Responses
No Change	21
Upon Graduation	2
Less Than 1 Year	3
1 Less Than 2 Years	7
2 Less Than 3 Years	10
3 Less Than 4 Years	10
4 Less Than 5 Years	4
More Than 5 Years	28

One other fact emerged from this survey which dealt with graduates returning to AFIT to attend Professional Education courses. The Professional Continuing Education (PCE) courses "...are designed to satisfy specific Air Force and DOD needs for special and advanced knowledge of immediate applicability." (1:2) The graduates were asked how many PCE courses they had taken since graduation to determine if they were keeping themselves abreast of current information, e.g., directives, regulations, and procedures, or were merely relying on the information they garnered while attending one of the AFIT Graduate Management

Programs. The results are presented in Table IV. It is interesting to note that the vast majority have not taken any additional courses since completion of their Master's degree work and graduation from AFIT. On one survey the comment was made that the servicing Personnel Training Office would not permit the individual to attend any PCE courses since the AFIT Graduate Management Program had fulfilled the need for any training that might be required--now or in the future; the individual had graduated in 1978. Though this situation may not be the norm, it is interesting that a greater number have not been back to take advantage of AFIT's Professional Education courses.

TABLE IV

Professional Continuing Education Courses Since Graduation

# of Courses	# of Responses
0	48
1	22
2	4
3	4
4 or More	6
Missing	1

The question of whether or not a graduate had published in a professional journal was asked in an effort to determine whether or not the purpose of AFIT's School of Systems and Logistics' Master of Science programs was being made known outside the immediate work area of the individ-

ual graduate. The assumption being, if an individual could pass the rigorous review of the referees, the article would, in its synopsis of the author, refer to the Master's degree received from AFIT and reflect favorably upon the school. The results are presented in Table V. The response to this question showed only 18 out of 85 respondents giving a positive response.

One respondent felt the category of professional journals was too restrictive; however, the author considered professional (refereed) journals to have greater prestige and thereby to reflect more favorably upon AFIT itself and the graduate if an article was selected for publication therein.

TABLE V

Have Published Article(s) in Professional Journal

	# of Responses
Yes	18
No	66
Missing	1

The Society of Logistics Engineers (SOLE) is a professional organization dedicated to the dissemination of the importance of logistics within industry as a whole, either military or civilian. In an attempt to lend further credibility to its aims, the Certified Professional Logistician (CPL) designation was established by SOLE in October 1972.

The CPL designation is to

> ...further the accreditation of professionals in the logistics field. This certification recognizes the functional interrelationships within the professional responsibilities of logisticians regardless of their occupational roles. (31)

After having completed a rigorous course of study such as AFIT's Graduate Management Programs, it would appear that to attain the CPL designation would be the next logical step; therefore, the graduates were asked whether or not they had received or were in the process of trying to receive the CPL designation. The results are presented in Table VI. Interestingly, the overwhelming response was "No". There was no request for additional information as to why these individuals had not taken the step to become "certified". The author made the following speculations for reasons why a greater number of the graduates had not obtained the CPL designation.

1. The CPL designation is not well publicized by SOLE.

2. The graduates do not feel it is worth their while to become associated with SOLE and its certification program.

3. The graduates feel their Master's degree has already "certified" them and any additional testing and subsequent receipt of the CPL designation is not required.

The final question in the demographic portion of the Graduate Survey addressed the question of whether any additional degrees had been obtained. The results are presented in Table VII. The vast majority have not obtained an additional degree. There is, however, a portion who are

working or have already obtained an additional degree including one individual who expects to receive a doctorate in the 1987 time frame.

TABLE VI

Have Received the Certified Professional Logistician Designation

	# of Responses
Yes	15
No	67
Registered, Not Taken	1
Received During AFIT	0
Missing	2

TABLE VII

Additional Degrees Since Graduation

	# of Responses
None	60
B.A. or B.S.	2
M.A. or M.S.	4
Additional Graduate Work	16*
Ph.D. or Equivalent	0
Missing	3

*Includes one individual who has completed all class work leading to a Ph.D. Anticipated completion date is 1987.

Supervisors. Within the Supervisor Survey an attempt was made to determine just how knowledgeable each supervisor was with regards to AFIT's School of Systems and Logistics Graduate Management Programs. The demographic

questions assessed whether the respondent was civilian or military, level of education, whether courses similar to the "core" courses offered at AFIT had been taken, length of time with the government, and how many persons he or she supervised. The age, rank structure, and time with the government of the supervisors is shown in Tables VIII, IX, and X. Since the majority of the respondents had been with the government for over 20 years, there was a good possibility the supervisors could be aware of AFIT's Graduate Management Programs.

TABLE VIII

Age Distribution of Supervisors

Age Group	# of Responses
31 to 35	3
36 to 40	8
41 to 45	21
46 to 50	15
Over 50	18
Missing	5*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

TABLE IX

Grade or Rank of Supervisors

Grade/Rank	# of Responses
GS/GM-13	15
GS/GM-14	18
GS/GM-15	12
SES	2
Major	1
Lt Colonel	9
Colonel	6
General Officer	1
Missing	5*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

TABLE X

Years with the Air Force/DoD

	# of Responses
5 Years or Less	0
5 Less Than 10 Years	2
10 Less Than 15 Years	4
15 Less Than 20 Years	18
20 Years Or More	42
Missing	4*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

For the author to be able to determine how familiar the supervisors were with Master's degree programs (especially the AFIT program) or the types of foundation courses AFIT stresses in its Graduate Management Programs, the following questions were asked:

1. The educational level of the supervisor;

2. Whether or not the supervisor attended one of AFIT's Graduate Management Programs;

3. The supervisor's familiarity with statistics, quantitative decision making, and computer type courses.

The results are presented in Tables XI, XII, and XIII. Fifty-three supervisors (76%) were at the Bachelor's plus some graduate work or higher level, indicating a familiarity with what Master's work entails. Though only 15 supervisors had attended one of AFIT's Graduate Management Programs, an average of 72% had taken courses similar to the foundation courses AFIT teaches.

TABLE XI

Highest Degree of Education Achieved

Type of Degree	# of Responses
None	4
Associate of Arts	2
Bachelor (BA/BS)	6
Bachelor's plus	16
Master's (MA/MS)	22
Master's plus	14
Doctorate	1
Missing	5*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

TABLE XII

Attended AFIT's Graduate Management Programs

	# of Responses
Yes	15
No	50
Missing	5*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

TABLE XIII

Taken Foundation Courses Similar to AFIT

Type of Course	Yes	No	Missing
Statistics	57	8	5*
Quantitative Decision Making	50	15	5*
Computer &/or Programming	45	21	4*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

The length of time in position and number of personnel supervised questions were asked to determine how familiar the individual was with the office which he or she supervised, along with how visible the AFIT graduate could be within the environment. The results are presented in Tables XIV and XV. Fifty-three supervisors had been in their positions at least a year, with the modal response of numbers supervised being in the six to ten person range. The length of time in position indicated the majority of supervisors had been in their respective positions for a sufficient amount of time to know what would be expected of

themselves, the office, and all individuals for whom they were responsible. The number of personnel supervised were almost equal between the 6 to 10 person range and the 20 or more person range. The probability of an AFIT graduate "standing out" in the office could not be hypothesized based upon this information. It had been hoped that a correlation might be found between the number of individuals assigned to a supervisor and the likelihood of a graduate being more visible because of the AFIT Master's Degree.

TABLE XIV

Time in Current Position

Years	# of Responses
Less Than 1 Year	13
1 Less Than 2 Years	18
2 Less Than 3 Years	10
3 Years or More	25
Missing	4*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

TABLE XV

Number of Personnel Supervised

	# of Responses
1 to 5 Persons	10
6 to 10 Persons	21
11-15 Persons	8
16 to 20 Persons	8
Over 20 Persons	19
Missing	4*

*Includes 2 surveys which did not have the pages containing the demographic questions included when the surveys were mailed.

Perceptions of the Usefulness of the Graduate Management Programs

The majority of the questions in this part of the survey were the same for both the graduates and supervisors; the primary difference between the two was the perspective the respondent was to take. The graduate was to respond whether he or she perceived the job required a certain type of knowledge or the ability to perform a certain task; the supervisor was asked if he or she perceived the subordinate's job required a specific type of knowledge or ability to perform a certain task. Questions pertinent to either the graduate or supervisor but not deemed appropriate via the demographic question format were asked to glean additional information. These questions are addressed separately.

The primary computer analysis conducted was determining the modal response to each question, though each

question was further analyzed to determine if there were any other trends indicated which a simple modal analysis would not address. The detailed results of the modal response analysis are presented in Appendix D for the graduates and Appendix E for the supervisors.

A summary of the results of the SPSS-x analysis of each question followed by conclusions, if any, is presented in the following sections.

Analysis of the Questions that were Similar Between the Graduate and Supervisor Surveys. A short synopsis of the questions in this section is followed by the question number of the respective survey: Q10-G is Question 10 of the Graduate Survey, while Q1-S is Question 1 of the Supervisor Survey. The questions themselves can be found in Appendix A for the graduates and Appendix B for the supervisors.

More than basic math, e.g., college algebra, calculus and/or statistics, required (Q10-G; Q1-S). The majority of the graduate responses, 63 of 85 (hereafter 63/85), or 74%, were in all levels of the "agree" range. The supervisors also had a heavy response rate in the "agree" range (61/70 or 87%). These results indicate either the supervisors place a greater weight on additional math skills than did the graduates, or the graduates are more knowledgeable of what type of math skills are really required by the job.

Knowledge of and able to analyze accounting records and reports (Q11-G; Q2-S). Both the graduates (66/85 or 78%) and supervisors (53/70 or 76%) agreed that a working knowledge of accounting is required.

The ability to analyze organizational structure(s) (Q12-G; Q3-S). The graduates were strongly in favor of being able to have this capability (71/85 or 84%) with 31/85 (36%) responding in the "strongly agree" category. The supervisors favored this ability only slightly less than the graduates (56/70 or 80%) with 31/70 (40%) responding in the "agree" category.

Need to know statistical analysis concepts (Q13-G; Q4-S). Both the graduates (67/85 or 79%) and the supervisors (56/70 or 80%) agreed in the requirement for understanding and applying statistical analysis concepts.

Understand the Department of Defense (DoD) financial management methods and systems (Q14-G; Q5-S). The graduates were heavily in favor of knowing the DoD financial management methods and systems (81/85 or 95%), while the supervisors (57/70 or 81%) were in favor though not as strongly as the graduates.

Ability to manage and/or integrate elements of physical distribution (Q15-G; Q6-S). Though a majority of the graduates agreed (47/85 or 55%), there were 20 individuals (24%), almost one-fourth of those who responded, who were neutral on this subject, and another 20% disagreed. A

majority of the supervisors (37/70 or 53%) responded positively to this question with 12 individuals (17%) being neutral. However, 19 individuals (27%), over one-fourth of the respondents, disagreed with needing this type of knowledge or skill. Since only a slight majority of the graduates and supervisors responded positively to this question, further investigation into the course structure may be warranted.

Manage/control maintenance and/or production management (Q16-G; Q7-S). On the part of the graduates, the mode was "neutral" with 18/85 or 21%. The balance of responses was almost equally divided between all the remaining categories. Though the supervisor responses were more heavily weighted on the "agree" side (32/70 or 46%), 24/70 (34%) disagreed as to its value, with 12/70 (17%) being neutral on the subject. The responses to this question on the part of both the graduates and supervisors may warrant further investigation.

Know about International Logistics (Q17-G; Q8-S). The majority of graduates (47/85 or 55%) and supervisors (36/70 or 51%) agreed with the requirement for this knowledge. However, 24/85 (28%) of the graduates and 21/70 (30%) of the supervisors disagreed, and the balance of both groups were neutral.

Determine and/or evaluate Reliability and Maintainability (R&M) aspects of acquisition and support of weapon sys-

tems (Q18-G; Q9-S). Both the graduates (59/85 or 69%) and supervisors (49/70 or 70%) strongly agreed in the appropriateness of knowing R&M.

Understand Quality Control (QC) concepts (Q19-G; Q10-S). The graduates were mixed on the utility of knowing about QC: 51/85 (60%) agreed, 19/85 (22%) were neutral, and 13/85 (15%) disagreed. The supervisors (48/70 or 69%) were more positive on the need to know about QC.

Ability to develop models to evaluate alternative courses of action (Q20-G; Q11-S). The graduates showed a mixture of responses to this question: 47/85 (55%) agreed; 12/85 (14%) were neutral while 15/85 (18%) disagreed. The supervisors (56/70 or 80%) were more positive in their desire for a subordinate to have the ability to perform this function. The difference between the graduates' and supervisors' perceptions may indicate a difference in the appropriateness of this ability in the work place. Another possibility exists that either the supervisors are not making their wishes known to see more alternative decision models generated to assist in their decision making processes, or they are unaware of their subordinates' ability in this area. A final possibility is that the work place does not lend itself to using structured decision models due to time constraints which may not permit the graduate sufficient time to gather all appropriate data; devise and debug a program (as required); and generate several options.

Know and understand the computer's limitations (Q21-G; Q12-S). Both the graduates (78/85 or 92%) and supervisors (66/70 or 94%) heavily favored knowing this information.

Ability to program a computer (Q22-G; Q13-S). There were mixed reactions to this question on the part of both the graduates and supervisors. The graduates had a slight majority in favor (46/85 or 54%), with 11/85 (13%) being neutral, and 27/85 (32%) being against. The supervisors had a simple majority in favor (36/70 or 51%), with 14/70 (20%) being neutral, and 18/70 (26%), slightly more than one-fourth of the respondents, doubting the usefulness of this ability. These results indicate an investigation into this subject area may be warranted along with a possible restructure of the course.

Understand and/or analyze the behavior of organizations (Q23-G; Q14-S). Both the graduates (78/85 or 92%) and the supervisors (58/70 or 83%) strongly agreed in the requirement to have this ability.

Express self verbally (Q24-G; Q15-S). The majority of responses for the graduates (61/85 or 72%) and supervisors (41/70 or 59%) were within a single category--"Strongly agree".

Express self in writing (Q25-G; Q16-S). The majority of responses for the graduates (61/85 or 72%) and supervisors (46/70 or 66%) were within a single category--"Strongly agree".

Know Microeconomic Concepts (Q26-G; Q17-S). The graduates (60/85 or 71%) were more in favor of having an understanding of microeconomic concepts than were the supervisors (45/70 or 64%).

Know Macroeconomic Concepts (Q27-G; Q18-S). The graduates responses were mixed to this question: 48/85 (56%) were in favor, 21/85 (25%) were neutral and 14/85 (16%) disagreed. The supervisors were equally mixed in their responses: 42/70 (60%) were in favor, 14/70 (20%) were neutral, and 12/70 (17%) disagreed.

Ability to use and/or understand Quantitative Decision Making techniques (Q28-G; Q19-S). Both the graduates (61/85 or 72%) and supervisors (57/70 or 81%) agreed with the requirement for this knowledge.

Ability to understand the process of weapon system acquisition to include financing, support considerations, manufacturing, and the market environment (Q29-G; Q20-S). Both the graduates (72/85 or 85%) and supervisors (57/70 or 81%) were in strong agreement on this point.

Understand detailed workings of the acquisition and contracting process, e.g., source selection process, contract modifications, configuration management (Q30-G; Q21-S). The graduates (78/85 or 92%) were more strongly in favor of this subject than the supervisors (56/70 or 80%).

Know the manufacturing/production process (Q31-G; Q22-S). The graduates (59/85 or 69%) and the supervisors

(46/70 or 66%) were in near perfect agreement in their opinions on this subject.

The Graduate Management Programs are useful for the graduate in meeting the needs of current job (Q32-G; Q23-S). The overwhelming response on the part of graduates (80/85 or 94%) and the supervisors (64/70 or 91%) was in the "agree" range.

Ability to perform in-depth research is a useful skill (Q33-G; Q24-S). Both the graduates (72/85 or 85%) and supervisors (59/70 or 84%) strongly agreed on this question.

Advanced education would be of more use in another position (Q34-G; Q26-S). An interesting dichotomy appeared in response to this question. The graduates tended toward being neutral (27/85 or 32%) or agreeing (40/85 or 47%) that their education would be put to better use elsewhere. The supervisors, however, tended to have the opposite point of view, i.e., 41/70 (59%) disagreed the individual's education would be put to better use elsewhere, while 11/70 (16%) were neutral, and 15/70 (21%) agreed the education would be put to better use somewhere other than in the individual's current position. This discrepancy of opinion tends to indicate a possible "disconnect" as to what an AFIT graduate perceives as the best use of his or her capabilities and what the supervisor's perspective of the graduate is. Another possibility may be the lack of a definite

plan to make better use of those civilians who have attended long-term, full-time training programs such as AFIT' Graduate Management Programs.

The AFIT Master's Degree has made the graduate more useful to the Air Force/DoD (Q35-G; Q30-S). The overwhelming response to this question on the part of the graduates (82/85 or 96%) and supervisors (65/70 or 93%) was "agree", the only variation being in the degree to which they agreed. The graduates tended to "strongly agree", while the supervisors tended only to "agree".

Would encourage other qualified individuals to attend (Q36-G; Q31-S). The response was strongly in favor of encouraging others to attend with the graduates having 78/85 (92%) and the supervisors having 64/70 (91%) responding positively to this question.

The AFIT Master's Degree has enhanced the graduate's career with the government (Q37-G; Q32-S). Both the graduates (65/85 or 76%) and supervisors (61/70 or 87%) responded positively to this question. However, it is interesting to note that a discrepancy emerged from the responses. The perception on the part of the supervisors tended to imply a "more favored position" with the government on the part of their subordinates, probably within the realm of promotions, than was perceived by the graduates. This difference is in keeping with the actual promotions on the part of the graduates, i.e., the majority have moved up

only one grade since time of graduation, and the length of time it has taken many of the graduates to get to the next higher grade has been more than five years.

The AFIT Master's Degree is useful to graduate's on-the-job performance (Q38-G; Q33-S). The overwhelming response on the part of the graduates (80/85 or 94%) and supervisors (62/70 or 89%) was positive.

The AFIT Master's Degree has better equipped the graduate to solve on-the-job problems (Q39-G; Q34-S). The response on the part of the graduates (81/85 or 95%) and the supervisors (58/70 or 83%) was positive.

Without the AFIT Master's Degree, the graduate's current position might not have been as readily available (Q45-G; Q29-S). Though the overall response rate of the graduates was positive (53/85 or 62%), 10/85 (12%) were neutral, and 22/85 (26%) disagreed. The supervisors were even across all categories: 22/70 (31%) agreed, 22/70 (31%) were neutral, and 22/70 (31%) disagreed with 4/70 (6%) not responding. One possible explanation for the division is that some graduates returned to the same position they held when they started their course work at AFIT; therefore, these individuals did not have to compete their current position. Other possibilities rest with the perceptions supervisors have of the AFIT Master's Degree program, and whether or not it was a consideration when the individual was selected for his or her current position. In addition,

if the individual was selected and in place in his or her current position prior to the supervisor who responded to this survey, the relative importance in the selection process of the AFIT Master's Degree as opposed to any other Master's program, or no advanced degree at all, would have been unknown to the current supervisor.

The AFIT Master's Degree is better than a Master's Degree from civilian institution (Q46-G; Q35-S). The graduates responded quite favorably to this question with 58/85 (68%) agreeing. The supervisors, however, were mixed in their responses: 32/70 (46%) responded "agree", 24/70 (34%) responded "neutral", and 11/70 (16%) disagreed.

Analysis of Questions Dissimilar between the Graduate and Supervisor Surveys.

Graduates. There were four questions asked of the graduates which addressed their perceptions of certain aspects of the program itself which would have been inappropriate for the supervisors to assess.

Question 40: The AFIT degree has increased or will increase in value over time. The majority of graduates (60/85 or 71%) agreed with this statement. The strong positive response to this question would seem to indicate a tempering of any initial negative assessment of the AFIT Master's Degree program with experience once the graduate had returned to the work place.

Question 41: The AFIT Master's Degree program was worth going through. A simple majority (44/85 or 52%) responded with a "strongly agree" followed by 24/85 (28%) responding with a simple "agree". Overall, 77/85 (91%) responded positively to this question indicating, for reasons professional and personal (as discussed in the Open-Ended Questions section), the AFIT program was worthwhile for those who attended.

Question 42: The graduate would rather have had more course work than completing a thesis. Probably the most interesting response pattern of any question asked, the distribution of the total number of responses per response category was almost equal. The highest response rate for any category was 15 and the lowest was 10. However, those who agreed in the elimination of the thesis (40/85 or 47%) were the slight "winners" over the 32/85 (38%) who disagreed, and the 12/85 (14%) who were neutral. The thesis question is one that has been debated time and time again. Its usefulness to the Graduate Management Programs, the individuals, and the Air Force has, as yet, not been settled. In recent correspondence from Headquarters United States Air Force, Deputy Chief of Staff for Logistics and Engineering (HQ USAF/LE), to the Air University Commander (AU/CC), presented in Appendix G, the AFIT thesis process was described as being "...too random", resulting in theses "...which over time rarely build on each other."

Several recommendations were made for the thesis and the thesis topic selection process in the portion of the open-ended questions requesting suggestions for overall improvement of the program, and are presented below:

1. As part of the notification of acceptance to the AFIT program, the individual should be told to have a thesis topic in hand upon arrival. If the thesis topic has not been selected when the individual arrives at school it should be assigned during the first term.

2. The progress of the thesis should be checked against established milestones. The advisor should be attuned to the direction the student and thesis is taking and not permit too many wrong paths to be taken.

3. The "how to do" a thesis needs to be taught as an aid to the learning experience and minimize unnecessary frustration.

4. Topics should be selected and accepted on the basis of direct USAF/DoD application, not upon "ivory tower" or advisor publication ambitions. If a student cannot find a topic to meet these criteria, topics should be assigned.

5. Objectives and structure of the thesis process need to be reviewed to ensure viable theses. Redirection of theses on the part of advisors should be monitored to keep theses going in the direction most useful to USAF/DoD and not advisor preferences.

Question 43: The AFIT program provided too much theory and not enough practical application. The strong negative response (53/85 or 62%) to this question indicated the AFIT program was meeting the needs of the graduates without being too ethereal in its approach to dealing with Air Force/DoD problems.

Question 44: The AFIT program provided too much practical application of concepts and not enough theory. The graduates (64/85 or 75%) did not perceive the program as

being weighted too heavily in the practical application area. However, these results do not necessarily mean that there is enough practical application being taught. Based upon the responses to the open-ended question, which asked for recommendations for overall improvement, several requests were made for more practical application of course material. Excerpts from those who provided recommendations on this subject are presented below.

1. The program would have been better if it had placed some emphasis on looking into how the various aspects of AF Logistics work, day-to-day, and how these real-life practices are based on (or not based on) some of the theory presented in AFIT.

2. Add a continuing education seminar course in the last quarter where past graduates are brought back to speak on current issues, conditions, regulations, etc., in the USAF/DoD.

3. Have an overview course to prepare mid-level managers to recognize and handle the many variations in organizational structures [and] management methods that could be encountered. AFIT needs to recognize the mid-level operational/functional position as opposed to assuming all graduates will move into middle/upper level staff positions.

4. Greater emphasis on interpersonal relationships and management of personnel rather than on "number crunching" alone. All "solutions" must be dealt with in light of the realities of the political and/or personal situations of the organization.

5. Incorporate a co-op program into the graduate programs. Having one or two week "hands-on" experience prior to graduation would give graduates an opportunity to begin applying their knowledge before graduation.

6. Have small group exercises working on meaningful problems to help prepare for work in the "real" world.

7. Use "real life" products in the classroom, e.g., Life Cycle Cost Management Plans, Baselines, Variance reports, Independent Cost Analyses, Statements of Work, Requests for Proposal, etc., from on-going programs as learn-

ing aids.

Question 47: The AFIT workload was too heavy. This question was asked to determine if the amount of course work was commensurate with the subject matter. There was about an even split between those who agreed (35/85 or 41%) and those who disagreed (37/85 or 44%).

Supervisors. There were four questions asked of the supervisors to assess their perceptions of the usefulness of advanced degrees in general.

Question 25: No advanced education is required for subordinate's current position. The majority of supervisors (40/70 or 57%) disagreed with this question, indicating the AFIT graduates' Master's education was of use within their current position. This response rate was consistent with Question 26, where 59% felt the graduate's education could be put to the best use where the graduate was currently employed, and Question 33, where 89% said the AFIT Master's Degree helped the graduates in the performance of their current job. However, almost 30% of those responding did not feel the advanced education was needed.

Question 27: The graduate's job is commensurate with their capabilities. This question was asked to determine if the graduate's current position was perceived as being a "match" for the individual, taking into consideration the attainment of an advanced academic degree (AAD). The supervisors responded positively (55/70 or 79%), indicating the

applicability of having an individual with an AAD for the position under discussion. This response rate is supportive of Questions 25, 26 and 33 as previously discussed.

Question 28: The graduate's job could be done without an Advanced Academic Degree. With Question 27 in mind, the author had anticipated a positive response if the response rate to Question 27 had been negative, and vice versa. However, the supervisors were almost evenly divided in their responses with 31/70 (44%) responding positively and 30/70 (43%) responding negatively. These results are inconsistent with the previous two questions, 25 and 27, and two supporting questions, 26 and 33, which are in a similar vein to this one. The prior questions had a range of positive responses between 57% and 89% as to the usefulness of the AFIT degree. Possible explanations for this sudden drop in appreciation of the AFIT degree is either the graduates are exceptionally talented anyway and the Master's degree added nothing to the individual that was not already there, or the supervisors do not fully appreciate the AFIT Master's Degree graduate and commensurate capabilities, i.e., the supervisors are not familiar enough with the AFIT program.

Question 36: The AFIT Master's Degree is better than none at all. The supervisors (63/70 or 90%) responded very positively to this question, indicating the AFIT Master's Degree is well regarded. This response is almost in direct

conflict with the responses to Question 28 in which they were split in their opinions as to whether or not the graduate's current position required an Advanced Academic Degree. It may be the supervisors perceive it does not matter from which institution a Master's degree, if it is to be had at all, is obtained. These results may also indicate the supervisors may not be sure just what to do with a graduate of an AFIT Master's Degree program.

Open-Ended Questions

The purpose of the open-ended questions was to give the respondents an opportunity to express themselves in greater depth than was possible with the other questions of the survey. The graduates were asked six questions and the supervisors were asked three.

Graduates. The graduates were asked their reasons for attending AFIT, whether these reasons were fulfilled, AFIT's impact upon their lives (e.g., personal and/or professional), and how the program could be improved by additions, deletions, or revisions to the current program. A synopsis of the responses to each question is presented below.

Question 48: What Courses should be Added? A good portion of the graduates felt the current program did not warrant any change. There were, however, recommendations for changes in the focus of several of the courses as well as recommendations for new courses.

A frequently voiced recommendation as has been

previously discussed was for more practical application of concepts taught instead of the concentration on theory and then alluding to the accomplishment of a certain task. For example, to avoid problems in acquiring a weapon system, a "good" specification should be written; however, what constitutes a "good" specification? How does a person begin writing a "good" specification? Though the exposure to specifications was appropriate, developing the ability to discern "good" from "bad" was neglected, and the graduates were left no better equipped to handle the situation when it was encountered. Other courses recommended to have a more practical application included contract management; a discussion of tools available to assist managers in selecting the best reliability and maintainability (R&M) parameters for different types of equipment; procurement at the base level; the relationship of military construction programs and the Operations and Maintenance (O&M) funding accounts; and a more detailed presentation of each of the funding accounts, e.g., BP1100, BP1600, and the Depot Maintenance Industrial Fund.

The impact and potential of the computer, especially the personal computer, as a tool of the manager was a course suggested to be added. Other topics of interest with respect to computers were working with spreadsheets; performing "what if" exercises; understanding and using data base management; and using the computer for information technol-

ogy and processing. Other topics recommended to be added were as follows:

a. The acquisition of data to include defining, pricing, and proving data rights;

b. Logistics Support Analysis (LSA) to include its theory, application, how it works with the other Integrated Logistics Support (ILS) elements, how to assess whether or not a contractor is performing to the contracted LSA requirements, how to tailor LSA requirements, and how to ensure LSA is influencing the design;

c. Warranties since they are now required by public law with respect to both the acquisition strategy and within the individual ILS elements themselves;

d. Contractor Logistics Support since it is one of the more popular forms of maintenance currently in use;

e. A philosophy course using the thoughts of several military leaders and discerning what made them think the way they did and how it might be useful today;

f. An "integration" course which addresses how all the Air Force organizations relate to one another, e.g., HQ USAF to the major commands and the base level; HQ AFLC to the Air Logistics Centers (ALCs); HQ AFSC to the product divisions; how the ALCs are structured; how ALCs structure their work; and how to deal with the political realities of working in the DoD and for the government;

g. Product Assurance/Quality Improvement;

h. Statistical Process Control/Total Quality Control;

i. Air Force Civilian Personnel Management which would cover the regulations, structure and related issues in how to be better managers of the people within the Air Force since about 90% of AFLC is civilian;

j. A current technology course which would address what was currently available and what was "in the works" with participation by the Air Force Wright Aeronautical Laboratories;

k. Combat Support Doctrine, a graduate level version of the PCE course, LOG 066;

l. A Program Management Overview course which address what a program manager would encounter in the running of a

program to include case studies;

m. Professional writing;

n. Acquisition of Software and its associated functional support to include costing, program reviews, audits, management of changes, and control of changes (reference DOD-STD-2167);

o. Managerial Productivity/Time Management course to assist the manager in making the most out of the time he or she has, and learning about tools which are available to assist in managing the job and people; and

p. A "Fifth Year Seminar" where graduates of five years ago would address the current class in current events within the government, e.g., public law, management initiatives, and Congressional perspectives.

Redirection was recommended for the following courses:

a. Macroeconomics should focus on the implications of macroeconomics on the Federal government;

b. Financial Management should emphasize the executive level considerations to be made;

c. Accounting should also emphasize the logistician's responsibility to establish and maintain internal controls for those areas for which he/she is responsible (reference Office of Management and Budget Circular A-123);

d. Life Cycle Cost (LCC) and R&M should not be a microeconomics course but should deal with LCC and R&M; and

e. International Logistics should address the evolution of the current geopolitical situation.

Several of the suggested changes have, in the author's opinion, already been corrected. In particular there are courses in Government Law; multiobjective programming; comparing the Federal (non-profit) to a commercial (profit) entity in the areas of Financial and Investment decision making, public image, performance measurement techniques, and productivity; cost analysis to include a cost-benefit

analysis; and public speaking since most of the courses now include a presentation of some sort along with there being a selection of electives in public speaking.

Question 49: Which Courses should be Deleted? The overwhelming response to this question was "None". On one of the surveys, a graduate answered "None; many of the courses were not personally useful but were probably necessary to present the broad range of logistics." This statement leads us to properly define what exactly the main purpose of the graduate school is, namely,

> ...to give carefully selected officers and Air Force civilians the broad educational background that will equip them both to understand their technological and cultural environment and to analyze and attempt to solve its problems. (1:2)

Even with AFIT apparently meeting its stated purpose, there were several recommendations for deletions. Courses which received more than one recommendation for deletion were the teaching of FORTRAN (one person recommended replacing it with BASIC or COBOL, though several individuals felt being able to program a computer was of no value); Managerial Accounting; Transportation; Distribution; Management Theory and Organizational Behavior; Operations Research/Quantitative Decision Making; Production and Maintenance Management; Economics (no discrimination as to whether it should be microeconomics, macroeconomics or both); and the thesis. With regards to the thesis, deletion of the team thesis was desired by one individual, a

situation which has been partly rectified by the extension of the program to fifteen months, thereby giving greater opportunity for individual theses. Another individual felt the thesis was not particularly useful but was probably required for accreditation purposes. Several recommendations on the thesis process have previously been discussed under the Perceptions section of this chapter.

There were conflicting responses on the Maintenance and Production Management course: some felt it should be deleted altogether, while others felt the deletion of the production portion of the class and turning it into a maintenance management course would be most beneficial. As was previously discussed, this course was one which yielded a certain amount of controversy as to its overall applicability. There were also recommendations for a reduction in the number of quantitative courses, e.g., statistics, production and maintenance management, and operations research/quantitative decision making, to be replaced with more practical application courses.

In several cases the emphasis of the courses was recommended to be changed:

1. Courses should address the Air Force environment and not the civilian marketplace.

2. While teaching individuals how to use the computer, interacting with people should not be forgotten since it is people with whom one must deal on a day to day basis and not necessarily computers.

3. Management Information Systems should not be taught as an end unto itself but as a subset of other

courses.

One graduate expressed concern as to the overall difficulty level of all courses, i.e., the graduate felt the courses had not been challenging enough, but had been geared to pass everyone.

Question 50: Why did you attend AFIT? There were several recurring themes when it came to this question. First and foremost, to "enhance career or career opportunities" was the most frequent response, followed by "to get a Master's", "enjoy learning", "to broaden perspective of USAF logistics", "it was 'free'", "improve self for the Air Force/DoD", and "be able to go to school full time without severing ties with the USAF/DoD". Other frequent responses were "to see if I could do it", "advice of a superior", "status/prestige of AFIT", "want to attend a graduate school with a military emphasis", "get up-to-date information on logistics, systems theory, and management techniques", and "the opportunity was there to be taken". Other motives used were "the recommendation of past graduates", "change in job environment", "close to home", "divine guidance", "get academic credence in an area in which already working", "more useful than a MBA", "to get another job at another location", "no choice - needed to get ahead in the government", "high rating of the degree by management", and "competitively selected". These responses showed there was no single reason for attending AFIT, but

also showed how difficult it would be for AFIT to meet the needs of each individual who enters the School of Systems and Logistics.

Question 51: Did AFIT meet the needs for which you attended it? The vast majority responded with an unqualified "Yes". There was, however, some dissatisfaction expressed along with qualified "Yeses" which are presented below.

Though some graduates felt the program was good, it had not as yet produced any significant changes in either their current status or in the work environment. Some of the problems stated were that management was unaware of the AFIT program and was, therefore, not using the graduate in the most efficient manner; others had not been able to get out of either their current field or current office which had been one of the goals in attending AFIT; and others felt the Master's degree was not "worth" any more than an MBA, though it gave more useful information than a MBA. On a more positive note, the reinforcement of logical thinking processes was a benefit derived for one graduate; others found it a good review of management principles, though some have been unable to apply these principles since their current offices are unwilling to try new ideas; the research papers required by various courses were found to be particularly helpful in organizing ideas with a side benefit to the graduate of learning about a new topic; and some graduates found they were more knowledgeable than peers and

superiors.

Probably the most frustrating experience of a number of graduates was the inability for their degree to work for them within the personnel system. For these individuals it was still not "what" you knew, but "who" you knew, a situation which leads them to wonder why they were permitted to attend AFIT and obtain the degree if the Air Force or DoD was not going to use them to their full potential. For a 1971 graduate who has received two Letters of Commendation for saving $6 million, five Sustained Superior Performance Awards, and ten Letters of Appreciation, there has been no change in grade since he attended AFIT, i.e., he is still a GS-12.

Question 52: In what area did AFIT have the greatest impact, e.g., personally, professionally, etc.? The purpose in asking this question was to determine if AFIT was having any lasting effect upon the graduates' lives, and if so, what type of effect it was. The responses were divided into the two main categories given as examples in the question itself, i.e., personally and professionally, with a few responses which did not fit either category.

Within the realm of the professional impact AFIT has had upon the graduates, a frequent response was the ability to be promoted at a rate faster than would have been possible without the AFIT Master's Degree. Another frequent response was the greater quantitative ability the graduates

gained via the statistics and quantitative decision making courses. An offshoot of the enhanced quantitative ability was the improved logical decision making processes of the graduates which lead to better analyses and working of problems, as opposed to working on symptoms. The broadening of the graduates' background to include a better understanding of the USAF and DoD and the complexity of logistics in the DoD lead them to provide better service to the USAF.

The most frequent response to the effect AFIT had on the graduates' personal lives was in the building of self confidence; the difficult course work followed by successful completion of the course work gave many graduates the feeling they could attack almost any problem and come up with a solution. The friendships made and maintained were a boon to several graduates. Other responses were "increased knowledge", "helped establish learning skills", "learned humility", "made job performance improve", "revitalized work ambitions", "[gave me] confidence to apply what I learned", and "revitalized [the graduate]".

The following responses were not easily categorized but are worth mentioning:

1. "I feel that there is not enough credit given to the civilians that graduate from AFIT. It should be looked at as a bonus above completing a civilian institution and its graduates should be in "demand" in the AF and DoD."

2. One individual described the following four areas upon which AFIT had an impact.

a. "Developed continuing dedication to research

and improvement.

b. Discovered Quality Circle (QC) philosophy that allowed me to start what is now largest single point QC effort in DoD.

c. Provided knowledge basis and dedication to develop new theories of management now being formed into a potential reform of the U.S. Civil Service.

d. Interface with foreign students a major benefit (both ways), and, I hope, contributed to better understanding between peoples."

3. "My most immediate job after Grad Log included subsequent work with Dr. Muckstadt after he left the faculty and came to work with AFLC. That association, continuing to this day, resulted in implementation of new requirements techniques that are still in use."

4. [paraphrased] The impact of the thesis was negative; it was a large time consumer with its value to AFIT, myself, or the USAF being questionable.

5. "The AFIT program gave me insight into areas of logistics that had been closed to me. I have had all my experience in the Air Force as a civilian. It is almost impossible to go into different career fields without severe downgrading. We civilians need to be exposed and experienced in various fields."

6. "Getting the AF outlook, I know the party line. Also, [was] expose[d] to [the] military mentality; I sometimes forget its ramifications."

7. "Egocentricity and paranoia of the AF military."

Recommendations for overall improvement. The purpose in this question was to give the graduates a final opportunity to voice any other opinions about the program which may not have been covered by any of the previous questions. The primary thrust of this question was to request ways to improve the Graduate Management Programs, though any discussion was welcome. There were 54/85 (64%) of the graduates who responded to this question. The recommendations to improve the thesis process and provide more practical

application of the theoretical material presented have already been discussed. Other areas which were not addressed by the survey but the graduates felt were important are addressed in the following paragraphs.

Several made recommendations to change the civilian personnel system to account for the AFIT Graduate Management Programs. These recommendations are quoted below:

1. The civilian personnel system does not consider logistics a professional job series, yet AFIT is cranking out professional logisticians. These two systems should be working together, not at cross purposes.

2. HQ AFLC/CV indicated that they would 'track the careers of each participant to assure adherence to post-training plans'. I don't believe this has been done.

3. I've never been able to be rated as qualified for a "logistics" position (346) in spite of my Grad Log degree. I'm an 896 Industrial Engineer.

4. Provide follow-up on graduates in advancement of their career [sic].

As can be seen from these statements, there appears to be a need for those individuals who have obtained an AFIT Master's Degree to experience some of the benefits the military already have in place if the USAF or DoD expects these individuals to continue in government service.

Another area recommended to be changed is in regard to advertising the availability of this course of study to the civilian component of the Air Force. Essentially, several individuals recommended a greater public relations push on the part of AFIT, civilian personnel, and the graduates themselves to "get the word out" about the opportunity

available to qualified civilians.

There were conflicting feelings regarding the usefulness of the Graduate Management Programs offered by AFIT. Some graduates felt there was no equal to AFIT and its programs, and the USAF and DoD should do what was necessary to keep the programs going. Other graduates, however, felt the uniqueness of the AFIT programs was nonexistent and should be contracted out to civilian universities, especially if the cost was less. The dichotomy of opinions expressed by the graduates on the usefulness of AFIT's Graduate Management Programs, and the inability of the author to locate a civilian institute which does offer an equivalent program in military logistics, points again to the fact that AFIT needs to better publicize what it has to offer and why it is better than a civilian institution.

The last area of recommendations had to do with the faculty and general atmosphere. One graduate cited the faculty as a primary area of weakness.

> Many of the shortcomings of the program came not so much from the content of the courses but from the way they were taught. The AFIT faculty could be improved in two ways:
>
> 1. People who have more 'real world' experience, rather than textbook theoreticians, should serve as instructors.
>
> 2. Equal attention should be given to communications ability and other 'people' skills as well as subject matter expertise."

Another student also requested that teachers be obtained who emphasized the quality and not the quantity of student

output. This individual also felt the instructors were more concerned with "buzz words" instead of the substance, understanding, and content of what was said in the classroom.

Regarding the general atmosphere of the Graduate Management Programs, several graduates commented on the intense concentration on grade competition, and not upon understanding of the material being presented. The following experience of a 1978 graduate is indicative of several of the comments received concerning the competitive nature of the program.

> I feel that the competition for grades was more intense than necessary. When I attended AFIT (class 78B), the military attendees were told that they would not receive an OER while they were at school, but would get a training report. Immediately, they assumed high grades and Distinguished Graduate[sic]; then 3.75 GPA or higher would equal 'ones' on the OER. This started the competition for grades. We, therefore, worked for grades, not understanding. Less competition and more cooperation between students might prove beneficial.

Though it is impossible for grades not to be a part of the education process, it should be emphasized that the retention and utilization of the subject matter is more important in the long run than any particular grade.

Supervisors. The supervisors were asked three open-ended questions regarding additions, deletions, and recommendations for overall improvements to the program. Of particular note was the overwhelming nonresponse to any of these questions, i.e., 51/70 (73%) did not respond to

any of the open-ended questions, with 10 of the 51 respondents specifically stating they were not familiar enough with the program to make any sort of comment. Question 49, which asked about deletions of courses from the program, had 67/70 (96%) of the respondents making no comment, while the last question which requested an overall assessment of the program and/or recommendations for changes had 55/70 (79%) not responding. This level of nonresponse indicates a problem which is highlighted by the following quotation of one individual who did respond to the open-ended question on how AFIT can better meet its goal of preparing individuals to be better managers:

> Selling of the program!..Very few civilians enter [an AFIT Graduate Management Program]. It is a good program but I don't think the civilians that go through it get enough credit for it. It's harder than many programs and the degree should be worth more than certainly some if not many of the civilian institutions. Civilian grads should be career pathed or in demand, but [instead] it's just another Master's degree.

A summary of the responses of those supervisors who did answer the open-ended questions are presented below.

Question 48: What courses or areas should be added? Though there were not many responses, there were several consistent recommendations. More emphasis on management techniques, including time management, and human behavior instead of the technical or quantitative type courses was expressed by several individuals. In addition, writing and oral communication skills as basic courses were requested

to be given additional emphasis.

The courses in contracting and reliability and maintainability (R&M) were requested to contain more in-depth study; one individual, who was a graduate of one of the programs, stated the reason for more R&M was because the course when the individual took it was more a microeconomics course instead of the R&M and life cycle cost course it was supposed to have been. Others felt the quantitative courses should be added or emphasized, e.g., non-parametric statistics, and application of quantitative techniques to real world case studies. One individual felt statistics should be the required math entry course instead of college algebra since there is a heavy emphasis on this subject and without prior exposure to statistics, an inordinate amount of time had been expended on this subject to the detriment of others when the individual attended AFIT. Non-parametric statistics is currently taught in the second quarter of statistics, though the emphasis is more on regression analysis with a "quick brush" overview of non-parametric analysis techniques.

<u>Question 49: Which courses or areas should be deleted?</u> There were only three individuals who responded to this question. The courses recommended for deletion were Economic Analysis for Civil Engineers, Problems in Environmental Protection, and Foreign Military Sales. The emphasis placed on behavior management was recommended to be

lessened, while another person felt the need for individuals to be programmers should be monitored since it was more important for an individual to be a manager, not a programmer. The strongest diatribe against the current program was expressed by an individual who thought the strong emphasis on quantitative courses, e.g., advanced statistics, operations research, forecasting, etc., was of little utility.

Recommendations for overall improvement. The mixture of opinions expressed in the responses to Questions 48 and 49 as to what should and should not be emphasized in the AFIT Graduate Management Programs points to a problem encountered by those who must construct a school's curriculum, i.e., how much emphasis should be given to the technical and quantitative aspects versus the more general, or managerial types of courses. It would appear that the supervisors' perception of the utility of each course revolved around the type of work the graduates are expected to perform after graduation. This supposition is further supported by the comments made to the final open-ended question which asked for recommendations for overall improvement. These comments are provided below:

1. Emphasize generalization - logistics is an integrated discipline.

2. A strong basis in math is essential - any that currently exists [in the program and their] application to logistics, e.g., requirements, case study work.

3. Essentially good program. Possibly de-emphasize

quantitative topics and emphasize people courses, effective writing, organization theory, and group efforts more strongly.

4. Stronger emphasis on "real" issues for thesis. More in-depth study and less surface level questionnaires.

5. Program is of little real value to [graduate] in present job. Might be of more value if person went into logistics.

6. More emphasis on computer modeling, applications and actually running of programs.

7. Be selective on who attends. Seek ideas from class members after they've attended within two weeks of graduation [sic].

8. Effectively translate R&M to weapon system availability and supportability especially when translating requirements into contract/specification preparation.

Other supervisors expressed general praise for the program and the graduates they supervised. One supervisor thought the strongest point was the different grade series of civilians who were selected for the AFIT programs, i.e., those who attended were not all from the 346, "Logistics Management Specialist", series.

Another supervisor felt the survey had not addressed the cost analysis option of the systems management program and should be rewritten. The author reviewed the general courses for the cost analysis option and the survey did address those courses. The primary difference in the cost analysis option from the graduate logistics or graduate engineering program was the heavier emphasis on operations research and costing methods as core courses. However, the cost analysis option does have many of the same courses

required of all attendees of the AFIT Graduate Management Programs, e.g., Computer Programming for Managers, Research Methods, and Economics.

Summary

The information gathered from the surveys permit a review of the Research Questions posed in Chapter I to determine whether or not they have been answered. For ease of reference the questions are restated, and are then followed by a response.

Question 1: Do civilian graduates of AFIT's School of Systems and Logistics perceive the program as preparing them "...for...positions of greater responsibility..."? The positive responses by the graduates to the open-ended Questions 50, 51, and 52 indicated this question was answered by the survey.

Question 2: Do supervisors perceive civilian graduates of AFIT's School of Systems and Logistics as being better prepared "...for...positions of greater responsibility..." than those who have not attended these AFIT programs? The positive responses to Questions 30 and 32 by the supervisors indicated the survey had answered this question.

Question 3: Do civilian graduates of AFIT's School of Systems and Logistics perceive the program as being useful in their current position? The graduates positive responses to Questions 32, 38, and 39 indicated this ques-

tion was answered by the survey.

Question 4: Do supervisors of civilian graduates of AFIT's School of Systems and Logistics perceive the program as being useful in their employees' current positions? The positive responses to Questions 33 and 34 indicated this question was answered by the survey.

Question 5: Does AFIT's School of Systems and Logistics meet the educational requirements of AFR 40-410 and AFR 40-418 in that AFIT prepares civilians "...for...positions of greater responsibility"? The progression of the graduates from the GS-5 to GS-10 ranks to the GS/GM-15 and SES level as presented in Table II would indicate a positive response to this question. However, a direct attribution to the AFIT program alone could not be made from the information provided.

Question 6: What could be done in the way of additions, deletions, or corrections to the present curricula to improve the programs for the civilian attendees? The results of the graduate and supervisor surveys indicated a general satisfaction with the AFIT Graduate Management Programs. The responses to the open-ended questions, already discussed in detail in the previous section, provided information which will be discussed in greater detail in Chapter V.

V. Recommendations

This chapter presents an overview of the research effort, areas of concern, and recommendations for future research.

Overview of Research Effort

This research effort was undertaken to determine the adequacy of AFIT's Graduate Management Programs for the civilian attendees, an effort which had not previously been done. Specifically, the research was directed at determining whether the training goals of AFRs 40-410 and 40-418 were being met through AFIT's Graduate Management Programs. The data was collected by mailing surveys to both the graduates of AFIT's School of Systems and Logistics Graduate Management Programs since 1963 and their immediate supervisors.

The survey asked three types of questions: demographic, perceptual, and open-ended. The demographic data was tabulated to provide a "picture" of the respondents. The responses to the perception questions were recorded on a Likert scale, and provided the degree to which both the graduates and supervisors perceived the usefulness of a type of skill or knowledge. The perceptual questions addressed courses which are part of the Graduate Management Programs' curricula. These responses were analyzed by an SPSS-x computer analysis program for the modal response to each question. Subsequent to the computer analysis, the

responses of the graduates were compared to the supervisors for those questions which were similar in nature. Questions which were dissimilar were analyzed separately. The open-ended questions permitted the graduates and supervisors to relay additional information which standard form questions cannot readily capture.

Areas of Concern

There were several items which surfaced which the author felt deserved mentioning, but would not necessarily lend themselves to further research. These items may be used by Civilian Personnel offices and AFIT in reviewing their current procedures and possibly revising them.

The first area of concern, introduced in Chapter I, is the different procedures practiced by the civilian personnel offices of different commands. This treatment differs from the military personnel who are, within their respective services, treated equally. The civilian attendee has to contend with nonstandard application procedures, the processing of the application, which can take as much as a year, and finally, short acceptance notification, sometimes as little as one to one and a half months prior to the beginning of the school term.

Whether or not thesis preparation costs will be reimbursed is another of the discrepancies which exists between the various commands. For example, the 2750th ABW, the servicing organization for Wright-Patterson AFB AFLC person-

nel, reimburses their AFIT attendees up to a maximum of $100 towards thesis preparation. On the other hand, ASD, a product division of HQ AFSC and located at Wright-Patterson AFB, does not allow reimbursement for any portion of thesis preparation.

Though the civilians are governed by a standard set of regulations, e.g., AFR 40-410 and AFR 40-418, the interpretation and implementation of these regulations is far from standard. Standardization of application procedures and expense reimbursement across all commands would probably be in the best interest of the Air Force and DoD.

One of the other areas of concern frequently mentioned by both former graduates and their supervisors was the lack of publicity on the part of AFIT. One method to correct this situation would be to encourage graduates to publish results of their work or research efforts in appropriate journals. This effort could be coupled with an aggressive "advertising" program by AFIT stating AFIT does have something to offer which is unique and better than any civilian institution. In this manner it will continue to attract the best possible students, both civilian and military.

Several graduates expressed concern about the guidance advisors provided during the thesis process. Recommendations were made to have the advisors fall under a certain amount of scrutiny to ensure the theses they were advising would be of benefit to the USAF or DoD and were not "pet

projects" the advisors had been unable to complete themselves.

Though AFIT has the unique opportunity to provide applicability of management techniques to the military environment, a recurring theme of the responses to the open-ended questions reflected the lack of realistic situations against which the graduates could test the theories. The purpose of AFIT is not to provide "cookbook" answers to each situation, but the graduates and supervisors perceived a need for more practical application of the information presented. With AFIT being located at Wright-Patterson AFB, the perfect opportunity exists to see any number of program offices in action, e.g., major weapon system acquisitions to the logistics support provided by HQ AFLC, and provide an opportunity for the students to test what they are learning on a current situation. Since visitation to the program offices on a regular basis would tend to disrupt those activities, a possible workaround would be for members of the faculty to establish contacts with the various offices and, when appropriate, use documents and materials generated by those offices as teaching materials in such classes as Contracting and Acquisition Management.

Recommendations for Future Research

As a result of this research effort several areas are recommended for further research. They are divided into the following categories: courses, career management, and

the thesis process.

Courses. The majority of the subject matter taught by AFIT's School of Systems and Logistics Graduate Management Programs was perceived by the graduates and supervisors as being useful and applicable to the needs of the USAF and DoD. The following courses are recommended to be researched to determine their applicability or need:

1. Physical Distribution Management. This subject is an important element of the logistics field and needs to be included in any logistics management curriculum. An investigation is recommended to be conducted to determine the needs of those who are working in the field and how best to incorporate them into the course curriculum.

2. Maintenance and Production Management. The value of this course may be only to a select group of individuals as opposed to all graduates. Recommend those who are currently in the field be surveyed to determine what changes to the current class structure need to be made.

Career Management. One of the more interesting discoveries was the grouping of the graduates between two grades. As was pointed out in the demographic information presented in Chapter IV, Tables II and III, the majority of graduates were GS-12s while attending AFIT with the majority of graduates currently occupying GS/GM-13 positions. In addition, it has taken most individuals over five years to attain their current grade. These findings must be

tempered by the fact that out of 219 possible respondents, only 129 were still in service with the USAF and had their addresses released for this thesis effort. Of the 129 surveys mailed, 3 were undeliverable, and 85 of the 126 graduates contacted responded. Although 85 is not a great number, 20 of the 23 years since the program was accredited are covered by this study.

The progression into the higher grade levels, i.e., GS/GM-15 through SES levels, was hypothesized to have been more pronounced. Both graduates and supervisors commented on the apparent lack of career progression which appears to be a reflection of the Civilian Personnel system. Currently, the Civilian Personnel system does not discriminate between those individuals who have obtained their Master's degree through long-term, full-time training at AFIT's Graduate Management Programs and those who have expended their own time and funds to obtain their Master's degree. This lack of discrimination by the Civilian Personnel system has the potential, if it has not occurred already, to negate the significant investments in time and money the Air Force and other agencies have made. For example, the civilian's slot will remain vacant for 15 months--though some commands do obtain training slots which eases the "loss". In addition, the individual attending AFIT receives full salary plus book allowance, and--depending upon the sponsoring command--an allowance for thesis preparation. While it is

not the mission of Civilian Personnel to ensure all eligible individuals are given the opportunity to attend the Graduate Management Programs offered by AFIT, it may be in the Air Force's and DoD's best interest to manage those individuals selected for such a course of study in a different manner than those persons who have not.

Areas recommended for future research in the area of career management are as follows:

1. Determination of whether graduates of AFIT's Graduate Management Programs are being promoted faster, slower, or at the same rate as the general civilian population and the associated implications for the policies set forth in AFRs 40-410 and 40-418.

2. Determination of whether some form of career monitoring should be implemented to ensure the USAF and DoD is getting the best use of each graduate considering the rather significant investment of time and money the government has already made. Career tracking could also benefit the graduate when being considered for promotion. If the USAF and DoD have no intention of exploiting the graduate to the maximum extent possible, there should be no reason for the government to invest so heavily in the individuals who have attended.

3. Determination of whether those individuals who are not "Logistics Management Specialists", i.e., in the 346 job series, or logistics related series when they attended

AFIT, and pursue the Graduate Logistics Management course or any one of its options while at AFIT, should be granted "Logistician" status upon successful completion of the program. If this option is deemed feasible, the graduate would obtain credit in another job series the same way as the military, and the government has gained another possible resource to meet critical shortages in either career field for which the graduate is now qualified.

Thesis Process. One of the major areas receiving criticism was the thesis process. Several individuals commented that an area requiring correction was the lack of applicability of theses to the USAF, DoD, or AFIT. One suggested remedy was to assign thesis topics. The potential problem is one of "matching" an individual to a topic in order that the research effort does not suffer from mediocrity because the individual does not find the topic to be of particular interest. Others suggested the thesis topic should be selected prior to arrival at the beginning of the school term. Recommend the thesis topic selection process be researched to determine a method whereby topics of importance to the USAF, DoD, and AFIT can be "matched" with incoming students.

Appendix A: Graduate Survey

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

11 APR 1986

REPLY TO ATTN OF: LS (Ms Theis, AV 785-4437)

SUBJECT: Civilian Graduates of AFIT's School of Systems and Logistics Graduate Management Programs Survey

TO: Civilian Graduate of the School of Systems and Logistics Management Program

1. As you know, the School of Systems and Logistics awards Master of Science degrees in Logistics Management, Engineering Management, and Systems Management. These programs, along with all other AFIT programs, need to be reviewed periodically to insure their continued relevance. The attached survey was prepared to help meet that need. In addition there is a survey for your immediate supervisor to complete.

2. The data gathered from these two surveys will be used to analyze the need for changes to the AFIT School of Systems and Logistics' graduate programs. The perceptions of both graduates and their supervisors regarding the usefulness of these AFIT programs are needed for this study.

3. Your participation in this survey is completely voluntary, but please bear in mind that without your reply the success of this project may be hampered. If you would like a copy of the results, please send your request with your completed survey or by separate correspondence.

4. Please return the completed survey in the enclosed envelope within 10 working days after receipt. Thank you for your help.

LARRY L. SMITH, Colonel, USAF
Dean
School of Systems and Logistics

2 ATCH
1. Graduate Survey
2. Supervisor Survey

STRENGTH THROUGH KNOWLEDGE

INSTRUCTIONS

1. This packet contains two surveys. Please give the Supervisor's Survey to your immediate supervisor.

2. The first attachment is an overview of courses you would have taken at AFIT for the Graduate Logistics Program. This list is to serve as a "memory jogger" to assist you in answering the survey.

3. Read the attached survey.

4. Indicate your answers on the survey itself. Please, do NOT place your name or any other type of identification on the survey. All respondents are to remain anonymous.

5. Upon completion, please return the survey in the envelope provided through official mail chanels. Return the completed survey within ten working days of receipt.

6. If you would like a copy of the results, please send your request to AFIT/LSG, ATTN: Ms. Claudia Theis, Wright-Patterson AFB OH 45433.

7. Thank you very much for your participation in this thesis research effort.

SUMMARY OF AFIT COURSE OFFERINGS

1963 - 1985

The courses are grouped very roughly into the types of courses which were taught: mathematical/quantitative, logistics, management, and communication. Each course name is listed separately, even though just the name has been changed since the program's inception.

MATHEMATICAL/QUANTITATIVE:

1. Systems Analysis
2. Logistics Decision Support Systems
3. Statistics
4. Cost Estimating and Analysis
5. Cost and Economic Analysis
6. Analysis of Management Information Systems
7. Economic Analysis
8. Mathematical Programming
9. Inventory Control and Management
10. Operations Research
11. Quantitative Decision Making
12. Cost and Price Theory
13. Economic Analysis for Civil Engineers
14. Problems in Environmental Protection
15. Life Cycle Cost and Reliability
16. Cost Estimating Techniques
17. Logistics Systems Analysis and Design

MANAGEMENT:

1. Accounting and Budgeting
2. Financial Management in the Federal Government
3. Federal Financial Management and Managerial Accounting
4. Computer Programming(FORTRAN and Simulation Languages)
5. Basic Economic Principles
6. Managerial Accounting
7. Accounting Issues for Defense Contracts
8. Personnel Management and Industrial Relations
9. Human Resources Management
10. Management Theory and Organizational Behavior
11. Organization and Management: Structure
12. Organization and Management: Behavior
13. Economic Analysis of Defense Programs
14. Analysis of Energy Issues
15. Analysis of Environmental Issues
16. Engineering Management Information Systems
17. Managerial Economics
18. Management Thought and Theory
19. Federal Labor Relations

LOGISTICS:

1. System Program Management
2. Transportation Management
3. Supply Management
4. Maintenance Management
5. Procurement and Production Management
6. National Military Strategy, Plans and Programs
7. Logistics Planning
8. Weapons Acquisition Management
9. Logistics Policy
10. Logistics Systems Policy
11. International Logistics Management
12. Contract Management Theory
13. Procurement and Acquisition Management
14. Contracting and Acquisition Management
15. Supply and Transportation
16. Distribution Management
17. Maintenance and Production Management
18. Macroeconomics and Public Policy
19. Acquisition Logistics
20. Procurement Law
21. Legal Aspects of Contracting
22. Engineering Concepts for Maintenance Managers

COMMUNICATION:

1. Research Theories and Techniques
2. Concept and Techniques of Research
3. Research Methods
4. Communications Techniques
5. Negotiations
6. Technical Speech
7. Communication for Managers and Analysts

USAF SCN 86-43A

1986 GRADUATE SURVEY

PART I

DEMOGRAPHIC INFORMATION

Please circle your answer to the following questions.

1. In what calendar year did you graduate from the AFIT Graduate Logistics Program?

a.	1963	f.	1968	k.	1973	p.	1978	u.	1983
b.	1964	g.	1969	l.	1974	q.	1979	v.	1984
c.	1965	h.	1970	m.	1975	r.	1980	w.	1985
d.	1966	i.	1971	n.	1976	s.	1981		
e.	1967	j.	1972	o.	1977	t.	1982		

2. My grade when I entered the AFIT Graduate Logistics Program was:
   a. Between GS-5 through GS-10
   b. GS-11
   c. GS-12
   d. GS/GM-13
   e. GS/GM-14
   f. GS/GM-15
   g. GS-16-18/SES-1-3

3. My current grade is:
   a. Between GS-5 through GS-10
   b. GS-11
   c. GS-12
   d. GS/GM-13
   e. GS/GM-14
   f. GS/GM-15
   g. GS-16-18/SES-1-3

4. My sex is:
   a. Male
   b. Female

5. How many years after graduation from the AFIT Graduate Logistics Program did you achieve your current grade?
   a. No change in grade since graduation
   b. Received it immediately after graduation
   c. Less than 1 year
   d. 1 year but less than 2 years
   e. 2 years but less than 3 years
   f. 3 years but less than 4 years
   g. 4 years but less than 5 years
   h. 5 or more years

6. How many AFIT Professional Continuing Education logistics related courses have you attended since your graduation from the AFIT Graduate Logistics Program?
   a. 0
   b. 1
   c. 2
   d. 3
   e. 4 or more

7. Have you published one or more articles in a professional journal since your graduation from the AFIT Graduate Logistics Program?
   a. Yes
   b. No

8. Have you obtained the Certified Professional Logistician designation from the Society of Logistics Engineers since your graduation from the AFIT Graduate Logistics Program?
   a. Yes
   b. No
   c. Have registered but not taken exam yet.
   d. Had received the CPL designation prior to or shortly after entering AFIT.

9. I have completed the following additional education since graduation from the AFIT Graduate Logistics Program:
   a. No additional education
   b. College (additional B.A. or B.S.)
   c. Master's (additional M.S. or M.A.)
   d. Some additional graduate work
   e. Doctoral Degree (Ph.D. or equivalent)

PART II

JOB REQUIREMENTS/EDUCATION USEFULNESS INFORMATION

This part contains questions as to the usefulness of the AFIT Graduate Logistics Program(Grad Log) and the requirements of your post-graduate assignment(s). There is a seven point scale associated with these questions as follows:

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Circle the number corresponding to the extent with which you agree/disagree with each statement.

JOB REQUIREMENTS

My job requires:

10. the ability to understand and/or apply mathematical techniques beyond basic arithmetic operations, such as college algebra, calculus, and/or statistics. 1 2 3 4 5 6 7

11. the ability to understand and analyze accounting records and reports (e.g., fund coding system, budgets, cost center reports, allotment ledgers, financial statements). 1 2 3 4 5 6 7

12. the ability to formally or informally analyze existing organizational structure(s) (e.g., work flow patterns, interpersonal communications). 1 2 3 4 5 6 7

13. the understanding and/or application of statistical analysis concepts (e.g., in requirements forecasting, analysis of trends, predicting the probability of an occurrence). 1 2 3 4 5 6 7

14. an understanding of the financial management methods and systems used by the DoD (e.g., Resource Management System; Planning, Programming and Budgeting System; Five Year Defense Program; industrial funds; stock funds). 1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

15. the ability to manage and/or integrate the various elements of distribution systems (e.g., base supply systems, transportation methods, order processing, inventory control).	1 2 3 4 5 6 7
16. the ability to manage or control maintenance and/or production processes (e.g., scheduling, component assembly, repair).	1 2 3 4 5 6 7
17. a knowledge of DoD involvement in international military programs (e.g., Grant Aid, Foreign Military Sales, international supply support arrangements, foreign military training).	1 2 3 4 5 6 7
18. the ability to determine and/or evaluate the impact of reliability and maintainability on the acquisition and support of weapons systems and their components.	1 2 3 4 5 6 7
19. an understanding of quality control concepts (e.g., specification compliance, standardization and evaluation programs, inspection routines).	1 2 3 4 5 6 7
20. the ability to develop models that will allow evaluating alternate courses of action prior to implementation.	1 2 3 4 5 6 7
21. the ability to understand the capabilities and limitations of the computer as an aid in the solution of management problems.	1 2 3 4 5 6 7
22. the ability to program a computer.	1 2 3 4 5 6 7
23. the ability to understand and/or analyze the organizational climate and the behavior of individuals within that organization.	1 2 3 4 5 6 7
24. the ability to <u>verbally</u> inform, convince, and/or persuade individuals relative to ideas, decisions and concepts.	1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

25. the ability to communicate in <u>writing</u> in such a manner as to inform, convince, and /or persuade individuals relative to ideas, decisions, and concepts (e.g., in the preparation of reports, correspondence).	1 2 3 4 5 6 7
26. an understanding of economic concepts relating to individual organizations (e.g., marginal costs, time value of money, market structures - microeconomic concepts).	1 2 3 4 5 6 7
27. an understanding of societal economic concepts (e.g., inflation, gross national product, balance of payments - macroeconomic concepts).	1 2 3 4 5 6 7
28. the ability to use and/or understand quantitative decision making techniques (e.g., decision tree analysis, best order quantity, transportation routes with the lowest cost, most efficient use of available personnel).	1 2 3 4 5 6 7
29. the ability to understand and analyze such things as the major system acquisition process, market environments, logistics considerations, financial arrangements, and manufacturing.	1 2 3 4 5 6 7
30. a working knowledge/understanding of acquisition management subjects (e.g., major system acquisition policies, manufacturing management, the source selection process, co-production management, contract modifications, configuration management, fraud, waste, and abuse in the government).	1 2 3 4 5 6 7
31. a working knowledge/understanding of manufacturing or production related issues (e.g., manufacturing processes, computer aided design/computer aided manufacturing(CAD/CAM), producibility, production readiness reviews, Manufacturing Technology/Technology Modernization).	1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

EDUCATION USEFULNESS

32. The skills that I acquired from my AFIT Grad Log education have proven useful in meeting the requirements of my job. 1 2 3 4 5 6 7

33. My ability to conduct research is useful in performing my job. 1 2 3 4 5 6 7

34. My AFIT Grad Log education will be of more value in future positions than it has been in my current position. 1 2 3 4 5 6 7

35. I feel that my AFIT Grad Log education has made me more useful to the Air Force/DoD. 1 2 3 4 5 6 7

36. I would encourage other qualified civilians to attend the AFIT Grad Log program. 1 2 3 4 5 6 7

37. I feel that my AFIT Grad Log education has enhanced my Air Force/DoD career. 1 2 3 4 5 6 7

38. I feel that my AFIT Grad Log education is useful to my on-the-job performance. 1 2 3 4 5 6 7

39. I feel that I am better equipped to solve on-the-job problems because of my AFIT Grad Log education. 1 2 3 4 5 6 7

40. I feel that the value of my AFIT Grad Log education has increased or will increase over time. 1 2 3 4 5 6 7

41. If I had it to do over again, I would go through the AFIT Grad Log program. 1 2 3 4 5 6 7

42. I would have preferred to take more management and technical courses instead of completing a thesis. 1 2 3 4 5 6 7

43. I feel the AFIT Grad Log program dealt too much with theory. 1 2 3 4 5 6 7

44. I feel the AFIT Grad Log program dealt too much with the practical application of concepts/theories. 1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

45. If I had not attended the AFIT Grad Log program, my current position would not have been as readily available to me. 1 2 3 4 5 6 7

46. I feel that my Master's from AFIT has made me more valuable to the Air Force/DoD than a Master's from a civilian institution. 1 2 3 4 5 6 7

47. I feel the workload for the AFIT Grad Log program was too heavy. 1 2 3 4 5 6 7

PART III

OPEN ENDED QUESTIONS

In this section, please write your responses in the space below each question.

48. What courses or subject areas would you recommend adding to the AFIT Grad Log curriculum? (Please include a brief description of the content of each recommended course.)

49. What course or courses which you were required to study at AFIT would you recommend deleting from the AFIT Grad Log program? Why?

50. Why did you attend the AFIT Grad Log Program?

51. Do you feel the AFIT Grad Log program met the needs for which you attended it?(Ref Question 50)

52. In what area did the AFIT Grad Log program make the most significant impact (e.g., personally, professionally), and why?

As you know, the basic purpose of the AFIT Grad Log program is to prepare logisticians to become effective logistics managers. Please include any comment you might have regarding areas for improvement in the AFIT Grad Log program to help meet its basic purpose better in the space below.

Thank you for completing this survey. Please enclose the survey in the envelope provided and return via official mail.

Appendix B: Supervisor Survey

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

11 APR 1986

REPLY TO ATTN OF: LS (Ms Theis, AV 785-4437)

SUBJECT: Civilian Graduates of AFIT's School of Systems and Logistics Graduate Management Programs Survey

TO: Supervisor of a Civilian Graduate of the School of Systems and Logistics Management Program

1. The School of Systems and Logistics awards Master of Science degrees in Logistics Management, Engineering Management, and Systems Management. These programs, along with all other AFIT programs, need to obtain feedback from the field so that the courses taught are relevant to current needs. The attached survey was prepared to help meet that need, and to obtain your opinion on what subject areas you feel are most important to a person in the position of the civilian AFIT graduate you supervise. The AFIT graduate you supervise, who handed you this survey, has received a similar survey.

2. The data gathered from these two surveys will be used to analyze the need for changes to the AFIT School of Systems and Logistics' graduate programs. The perceptions of both graduates and their supervisors regarding the usefulness of these AFIT programs are needed for this study.

3. Your participation in this survey is completely voluntary, but please bear in mind that without your reply the success of this project may be hampered. If you would like a copy of the results, please send your request with your completed survey or by separate correspondence.

4. Please return the completed survey in the enclosed envelope within 10 working days after receipt. Thank you for your help.

LARRY L. SMITH, Colonel, USAF
Dean
School of Systems and Logistics

1 ATCH
Survey Packet

STRENGTH THROUGH KNOWLEDGE

SUPERVISOR SURVEY

INSTRUCTIONS

1. Please do NOT put your name on the survey. Each survey will become part of a data base to analyze the need for change to the AFIT Graduate Logistics Management program to meet the needs of the civilian attendees. No attempt will be made to attribute responses to individuals.

2. Read the attached survey.

3. Mark all your answers on the survey itself.

4. After completing the survey, enclose it in the envelope provided and return via official mail.

5. Return the completed survey within ten working days of receipt.

6. If you would like a copy of the results, please send your request to AFIT/LSG, ATTN: Ms. Claudia Theis, Wright-Patterson AFB OH 45433.

7. Thank you very much for your participation in this thesis research effort.

1986 SUPERVISOR SURVEY

PART I

USEFULNESS AND APPLICABILITY OF AFIT PROGRAM

This part contains questions of your estimation of the usefulness and applicability of the AFIT Graduate Logistics Program(Grad Log) to the requirements of your subordinate's job. The response scale is as follows:

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Circle the number corresponding to the extent with which you agree/disagree with each statement.

USEFULNESS OF THE AFIT PROGRAM

My subordinate's job requires:

1. the ability to understand and/or apply mathematical techniques beyond basic arithmetic operations. 1 2 3 4 5 6 7

2. the ability to understand and analyze accounting records and reports (e.g., fund coding system, budgets, cost center reports, allotment ledgers, financial statements) 1 2 3 4 5 6 7

3. the ability to formally or informally analyze existing organizational structure(s) (e.g., work flow patterns, interpersonal communications) 1 2 3 4 5 6 7

4. the understanding and/or application of statistical analysis concepts (e.g., requirements forecasting, analysis of trends, predicting the probability of an occurrence). 1 2 3 4 5 6 7

5. an understanding of the financial management methods and systems used by the DoD (e.g., Resource Management System; Planning, Programming and Budgeting System; industrial funds; stock funds). 1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

6. the ability to manage and/or integrate the various elements of distribution systems (e.g.,base supply systems, transportation methods, order processing, inventory control).	1 2 3 4 5 6 7
7. the ability to manage or control maintenance and/or production processes (e.g., scheduling, component assembly, repair).	1 2 3 4 5 6 7
8. a knowledge of DoD involvement in international military programs (e.g., Grant Aid, Foreign Military Sales, international supply support arrangements, foreign military training).	1 2 3 4 5 6 7
9. the ability to determine and/or evaluate the impact of reliability and maintainability on the acquisition and support of weapons systems and their components.	1 2 3 4 5 6 7
10. an understanding of quality control concepts (e.g., specification compliance, standardization and evaluation programs, inspection routines).	1 2 3 4 5 6 7
11. the ability to develop models that will allow evaluating alternate courses of action prior to implementation.	1 2 3 4 5 6 7
12. the ability to understand the capabilities and limitations of the computer as an aid in the solution of management problems.	1 2 3 4 5 6 7
13. the ability to program a computer.	1 2 3 4 5 6 7
14. the ability to understand and/or analyze the organizational climate and the behavior of individuals within that organization.	1 2 3 4 5 6 7
15. the ability to <u>verbally</u> inform, convince, and/or persuade individuals relative to ideas, decisions and concepts.	1 2 3 4 5 6 7
16. the ability to communicate in <u>writing</u> in such a manner as to inform, convince, and/or persuade individuals relative to ideas, decisions, and concepts as in the preparation of reports, correspondence.	1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

17. an understanding of economic concepts relating to individual organizations (e.g., marginal costs, time value of money, market structures - microeconomic concepts).	1 2 3 4 5 6 7
18. an understanding of societal economic concepts (e.g., inflation, gross national product, balance of payments -macroeconomic concepts).	1 2 3 4 5 6 7
19. the ability to use and/or understand quantitative decision making techniques (e.g., decision tree analysis, best order quantity, transportation routes with the lowest cost, most efficient use of available personnel).	1 2 3 4 5 6 7
20. the ability to understand and analyze such things as the major system acquisition process, market environments, logistics considerations, financial arrangements, and manufacturing.	1 2 3 4 5 6 7
21. a working knowledge of acquisition management subjects (e.g., major system acquisition policies, manufacturing management, the source selection process, co-production management, contract modifications, configuration management, fraud, waste, and abuse in the government).	1 2 3 4 5 6 7
22. a working knowledge of manufacturing or production related issues (e.g., manufacturing processes, computer aided design/computer aided manufacturing(CAD/CAM), producibility, production readiness reviews, Manufacturing Technology/Technology Modernization).	1 2 3 4 5 6 7

APPLICABILITY OF THE AFIT PROGRAM

23. The skills that my subordinate acquired from the AFIT Grad Log education have proven useful in meeting the requirements of his/her job.	1 2 3 4 5 6 7
24. My subordinate's ability to conduct in-depth research is useful in performing his/her job.	1 2 3 4 5 6 7

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

25. My subordinate's job does not require an advanced education (e.g., the AFIT Grad Log program). 1 2 3 4 5 6 7

26. My subordinate's AFIT Grad Log education would be of more value in a different position than it has been in his/her current position. 1 2 3 4 5 6 7

27. My subordinate's job is commensurate with his/her abilities. 1 2 3 4 5 6 7

28. My subordinate could effectively do his/her job without the AFIT Grad Log program. 1 2 3 4 5 6 7

29. If my subordinate had <u>not</u> attended the AFIT Grad Log program, his/her current position would not have been as readily available. 1 2 3 4 5 6 7

30. I feel that my subordinate's AFIT Grad Log education is useful to the Air Force/DoD. 1 2 3 4 5 6 7

31. I would encourage other qualified civilians to attend the AFIT Grad Log program. 1 2 3 4 5 6 7

32. I feel that my subordinate's AFIT Grad Log education has enhanced his/her Air Force/DoD career. 1 2 3 4 5 6 7

33. I feel that my subordinate's AFIT Grad Log education is useful to his/her on-the-job performance. 1 2 3 4 5 6 7

34. I feel that my subordinate is better equipped to solve on-the-job problems because of his/her Grad Log education. 1 2 3 4 5 6 7

35. I feel that a Master's from the AFIT Grad Log program is more valuable to the Air Force/DoD than a Master's from a civilian institution. 1 2 3 4 5 6 7

36. I feel that a Master's from the AFIT Grad Log program is more valuable to the Air Force/DoD than no Master's at all. 1 2 3 4 5 6 7

PART II

DEMOGRAPHIC INFORMATION

Please circle your response to the following questions.

37. My age group is:
    a. 20-25 yrs.
    b. 26-30 yrs.
    c. 31-35 yrs.
    d. 36-40 yrs.
    e. 41-45 yrs.
    f. 46-50 yrs.
    g. Over 50 yrs.

38. My rank is:

a.	GS-11	h.	2nd LT
b.	GS-12	i.	1st LT
c.	GS/GM-13	j.	CAPT
d.	GS/GM-14	k.	MAJ
e.	GS/GM-15	l.	LTCOL
f.	GS/GM16-18	m.	COL
g.	SES	n.	General Officer

39. The highest degree of formal education which I have received is:
    a. Less than 2 years college (no degree)
    b. Associate degree
    c. Baccalaureate degree
    d. Baccalaureate degree plus additional graduate work
    e. Master's degree
    f. Master's degree plus additional graduate work
    g. Doctorate

40. Have you ever attended the AFIT School of System's and Logistics' Graduate Logistics Education Division?
    a. Yes
    b. No

41. I have taken statistics (probability, regression analysis, non-parametric statistics, etc.).
    a. Yes
    b. No

42. I have taken a quantitative decision making course(s) (decision tree analysis, linear programming, queuing theory, etc.).
    a. Yes
    b. No

43. I have taken computer simulation and/or computer programming courses.
    a. Yes
    b. No

44. I have held my current position for:
    a. Less than 1 year
    b. 1 year but less than 2
    c. 2 years but less than 3
    d. 3 years or more

45. I am well acquainted with the requirements of my subordinate's job as well as his/her performance.
    a. Yes
    b. No

46. I personally supervise:
    a. 1-5 persons
    b. 6-10 persons
    c. 11-15 persons
    d. 16-20 persons
    e. Over 20 persons

47. I have worked for the Air Force/DoD for:
    a. 5 yrs. or less
    b. Over 5 yrs. but less than 10 yrs.
    c. Over 10 yrs. but less than 15 yrs.
    d. Over 15 yrs. but less than 20 yrs.
    e. Over 20 yrs.

PART III

Please answer the following questions in the space provided after each question.

48. What courses or subject areas would you recommend adding to the AFIT Grad Log curriculum? (Please include a brief description of the content of each recommended course.)

49. What courses or subject areas would you recommend deleting from the AFIT Grad Log curriculum?

As you know, the basic purpose of the AFIT Grad Log program is to prepare logisticians to become effective logistics managers. Please include any comments you might have regarding areas for improvement in the AFIT Grad Log program to help meet its basic purpose better in the space below.

Thank you for completing this questionnaire. Please enclose the questionnaire in the envelope provided and return via official mail.

Appendix C: SPSS-x Analysis Programs

Program for Graduate Survey Demographic Information

```
SET              WIDTH=80
SET              LENGTH=NONE
TITLE            'GRADUATE SURVEY, DEMOGRAPHIC INFORMATION'
FILE HANDLE      GRAD45/NAME='GRAD45'
DATA LIST        FILE=GRAD45 FIXED RECORDS=1/ID, Q10 TO Q47,
                 Q1 TO Q9
                 (f3.0,38f1.0,1f2.0,8f1.0)
VARIABLE LABELS  Q1 'YEAR GRADUATED FROM GRAD LOG'
                 Q2 'GRADE WHEN ENTERED GRAD LOG'
                 Q3 'CURRENT GRADE'
                 Q4 'SEX'
                 Q5 'HOW LONG UNTIL RECEIVE CURRENT GRADE'
                 Q6 'HOW MANY PCE COURSES SINCE GRADUATION'
                 Q7 'HAVE PUBLISHED ARTICLES'
                 Q8 'RECEIVE CPL DESIGNATION SINCE' +
                    ' GRADUATION'
                 Q9 'ADDITIONAL EDUCATION SINCE GRADUATION'
VALUE LABELS     Q1 1 '1963' 2 '1964' 3 '1965' 4 '1966' 5
                    '1967' 6 '1968' 7 '1969' 8 '1970' 9
                    '1971' 10 '1972' 11 '1973' 12 '1974' 13
                    '1975' 14 '1976' 15 '1977' 16 '1978' 17
                    '1979' 18 '1980' 19 '1981' 20 '1982' 21
                    '1983' 22 '1984' 23 '1985'/Q2 TO Q3 1
                    'GS-5 TO GS-10' 2 'GS-11' 3 'GS-12' 4
                    'GS/GM-13' 5 'GS/GM-14' 6 'GS/GM-15' 7
                    'GS-16-18/SES'/Q4 1 'MALE' 2 'FEMALE'/Q5
                    1 'NO CHANGE' 2 'UPON GRADUATION' 3 '< '
                    + '1 YR' 4 '1 < 2 YRS' 5 '2 < 3 YRS' 6
                    '3 < 4 YRS' 7 '4 < 5 YRS' 8 '>5 YRS'/Q6
                    1 '0' 2 '1' 3 '2' 4 '3' 5 '4 OR MORE'/Q7
                    1 'YES' 2 'NO'/Q8 1 'YES' 2 'NO' 3
                    'REGISTRD, NOT TAKEN' 4 "REC'D PRIOR TO"
                    + ' ENTRY'/Q9 1 'NONE' 2 'BA/BS' 3
                    'MS/MA' 4 "ADD'L GRAD WORK" 5 'PhD'
MISSING VALUES   ID(999) Q1(99) Q2 TO Q9(9)
FREQUENCIES      VARIABLES=Q1(1,23) Q2 TO Q3(1,7) Q4(1,2)
                 Q5(1,8) Q6(1,5) Q7(1,2) Q8(1,4) Q9(1,5)/
FINISH
```

Program for Graduate Survey Perception Information

```
SET              WIDTH=80
SET              LENGTH=NONE
TITLE            "GRADUATES'S PERCEPTIONS OF GRAD LOG" +
                 " USEFULNESS"
FILE HANDLE      GRAD45/NAME='GRAD45'
DATA LIST        FILE=GRAD45 FIXED RECORDS=1/ID, Q10 TO Q47,
                 Q1 TO Q9
                 (f3.0,38f1.0,1f2.0,8f1.0)
VARIABLE LABELS  Q10 'MORE THAN BASIC MATH NEEDED'
                 Q11 'ACCOUNTING'
                 Q12 'ANALYZE WORK FLOW PATTERNS'
                 Q13 'NEED STATISTICAL ANALYSIS CONCEPTS'
                 Q14 'KNOW PPBS/POM'
                 Q15 'PDM'
                 Q16 'POM'
                 Q17 'INTERNATIONAL'
                 Q18 'R&M'
                 Q19 'QC'
                 Q20 'MODEL DEVELOPMENT'
                 Q21 "UNDERSTAND COMPUTER'S LIMITATIONS"
                 Q22 'PROGRAMMING CAPABILITY'
                 Q23 'ORG BEHAVIOR'
                 Q24 'EXPRESS SELF VERBALLY'
                 Q25 'EXPRESS SELF IN WRITING'
                 Q26 'MICROECONOMICS'
                 Q27 'MACROECONOMICS'
                 Q28 'QDM'
                 Q29 'UNDERSTAND ACQ/MRKT/LOG/FINANCE/MFG'
                 Q30 'CONTRACTING'
                 Q31 'MFG'
                 Q32 'USEFUL IN MEETING CURRENT JOB'
                 Q33 'RESEARCH IS USEFUL SKILL'
                 Q34 'MORE VALUABLE IN FUTURE JOB'
                 Q35 'AFIT MS MAKES GRAD MORE USEFUL TO'
                     + ' GOVT'
                 Q36 'ENCOURAGE OTHERS TO ATTEND'
                 Q37 'AFIT MS HAS ENHANCED CAREER'
                 Q38 'DEGREE USEFUL TO ON-THE-JOB' +
                     ' PERFORMANCE'
                 Q39 'BETTER EQUIPPED TO SOLVE DAILY' +
                     ' PROBLEMS'
                 Q40 'DEGREE WILL INCREASE IN VALUE OVER' +
                     ' TIME'
                 Q41 'PROGRAM WAS WORTH GOING THROUGH'
                 Q42 'PREFER NOT TO DO THESIS'
                 Q43 'TOO MUCH THEORY TAUGHT'
                 Q44 'TOO MUCH PRACTICAL APPLICATION TAUGHT'
                 Q45 'AFIT MS MADE PERSON MORE COMPETITIVE'
                 Q46 'AFIT MS BETTER THAN CIVILIAN MS'
                 Q47 'WORKLOAD TOO HEAVY'
```

```
VALUE LABELS     Q10 TO Q47 1 'STRONGLY DISAGREE' 2
                 'DISAGREE' 3 'SLIGHTLY DISAGREE' 4
'NEUTRAL'
                 5 'SLIGHTLY AGREE' 6 'AGREE' 7 'STRONGLY' +
                 ' AGREE'
MISSING VALUES   Q10 TO Q47(9)
FREQUENCIES      VARIABLES=Q10 TO Q47/STATISTICS=MODE
                 MEDIAN/
FINISH
```

Program for Supervisor Survey Demographic Information

```
SET              WIDTH=80
SET              LENGTH=NONE
TITLE            'SUPERVISOR SURVEY, DEMOGRAPHIC DATA'
FILE HANDLE      SUPER1/NAME='SUPER1'
DATA LIST        FILE=SUPER1 FIXED RECORDS=1/ID, Q37 TO Q47
                 (f3.0,1f1.0,1f2.0,9f1.0)
VARIABLE LABELS  Q37 'AGE GROUP'
                 Q38 'GRADE OR RANK'
                 Q39 'HIGHEST EDUCATIONAL DEGREE'
                 Q40 'ATTENDED GRAD LOG'
                 Q41 'TAKEN STATISTICS COURSE/S'
                 Q42 'TAKEN QDM COURSE/S'
                 Q43 'TAKEN COMPUTER &/OR PROGRAMMING' +
                     ' COURSES'
                 Q44 'TIME IN CURRENT POSITION'
                 Q45 "FAMILIAR WITH SUBORDINATE'S JOB"
                 Q46 'NUMBER PERSONALLY SUPERVISE'
                 Q47 'HOW LONG WITH USAF/DOD'
VALUE LABELS     Q37 1 '20-25 YRS' 2 '26-30 YRS' 3 '31-35' +
                 ' YRS' 4 '36-40 YRS' 5 '41-45 YRS' 6 '46-'
                 + ' 50 YRS' 7 'OVER 50 YRS'/Q38 1 'GS-11' 2
                 'GS-12' 3 'GS/GM-13' 4 'GS/GM-14' 5
                 'GS/GM-15' 6 'GS/GM 16-18' 7 'SES' 8 '2LT'
                 9 '1LT' 10 'CAPT' 11 'MAJ' 12 'LTCOL' 13
                 'COL' 14 'GEN'/Q39 1 'NONE' 2 'AA' 3 'BA' 4
                 'BS' 5 'MA/MS' 6 'MA/MS +' 7 'PhD'/
                 Q40 TO Q43 1 'YES' 2 'NO'/Q44 1 '<1 YR' 2
                 '1 < 2 YRS' 3 '2 < 3 YRS' 4 '> 3 YRS'/Q45 1
                 'YES' 2 'NO'/Q46 1 '1-5' 2 '6-10' 3 '11-15'
                 4 '16-20' 5 'OVER 20'/Q47 1 '<5 YRS' 2
                 '5 < 10 YRS' 3 '10 < 15 YRS' 4 '15 < 20'
                 + ' YRS' 5 '> 20 YRS'
MISSING VALUES   Q38(99) Q37, Q39 TO Q47(9)
FREQUENCIES      VARIABLES=Q37(1,7) Q38(1,14) Q39(1,7) Q40
                 TO Q43(1,2) Q44(1,4) Q45(1,2) Q46 TO
                 Q47(1,5)/
FINISH
```

Program for Supervisor Survey Perception Information

```
SET              WIDTH=80
SET              LENGTH=NONE
TITLE            "SUPERVISOR'S PERCEPTIONS OF GRAD LOG
                  USEFULNESS"
FILE HANDLE      SUPER2/NAME='SUPER2'
DATA LIST        FILE=SUPER2 FIXED RECORDS=1/ID, Q1 TO Q36
                 (f3.0,36f1.0)
VARIABLE LABELS  Q1 'MORE THAN BASIC MATH NEEDED'
                 Q2 'ACCOUNTING'
                 Q3 'ANALYZE WORK FLOW PATTERNS'
                 Q4 'NEED STATISTICAL ANALYSIS CONCEPTS'
                 Q5 'KNOW PPBS/POM'
                 Q6 'PDM'
                 Q7 'POM'
                 Q8 'INTERNATIONAL'
                 Q9 'R&M'
                 Q10 'QC'
                 Q11 'MODEL DEVELOPMENT'
                 Q12 "UNDERSTAND COMPUTER'S LIMITATIONS"
                 Q13 'PROGRAMMING CAPABILITY'
                 Q14 'ORG BEHAVIOR'
                 Q15 'EXPRESS SELF VERBALLY'
                 Q16 'EXPRESS SELF IN WRITING'
                 Q17 'MICROECONOMICS'
                 Q18 'MACROECONOMICS'
                 Q19 'QDM'
                 Q20 'UNDERSTAND ACQ/MRKT/LOG/FINANCE/MFG'
                 Q21 'CONTRACTING'
                 Q22 'MFG'
                 Q23 'USEFUL IN MEETING CURRENT JOB'
                 Q24 'RESEARCH IS USEFUL SKILL'
                 Q25 'NO ADVANCED EDUCATION REQUIRED'
                 Q26 'EDUCATION MORE USEFUL ANOTHER JOB'
                 Q27 'JOB COMMENSURATE WITH CAPABILITIES'
                 Q28 'COULD DO JOB WITHOUT GRAD LOG' +
                     ' EDUCATION'
                 Q29 "GRAD'S DEGREE HELPED TO GET CURRENT" +
                     " JOB"
                 Q30 'GRAD LOG IS USEFUL TO USAF/DOD'
                 Q31 'ENCOURAGE OTHERS TO ATTEND'
                 Q32 "AFIT MS ENHANCED SUB'S GOVT CAREER"
                 Q33 'DEGREE HELP DAILY PERFORMANCE'
                 Q34 'BETTER EQUIPPED DUE TO GRAD LOG'
                 Q35 'AFIT MS BETTER THAN CIVILIAN MS'
                 Q36 'AFIT MS BETTER THAN NONE AT ALL'
VALUE LABELS     Q1 TO Q36 1 'STRONGLY DISAGREE' 2
                 'DISAGREE' 3 'SLIGHTLY DISAGREE' 4
                 'NEUTRAL' 5 'SLIGHTLY AGREE' 6 'AGREE' 7
                 'STRONGLY AGREE'
```

```
MISSING VALUES  Q1 TO Q36(9)
FREQUENCIES     VARIABLES=Q1 TO Q36/STATISTICS=MODE MEDIAN/
FINISH
```

Appendix D: Computer Analysis of the Graduates' Responses to Questions on the Perceived Usefulness of AFIT's Graduate Management Programs

Q10: MORE THAN BASIC MATH NEEDED

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	3	3.5	3.5	3.5
DISAGREE	2	12	14.1	14.1	17.6
SLIGHTLY DISAGREE	3	2	2.4	2.4	20.0
NEUTRAL	4	5	5.9	5.9	25.9
SLIGHTLY AGREE	5	12	14.1	14.1	40.0
AGREE	6	30	35.3	35.3	75.3
STRONGLY AGREE	7	21	24.7	24.7	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q11: UNDERSTAND AND/OR ANALYZE ACCOUNTING RECORDS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	4	4.7	4.7	4.7
DISAGREE	2	6	7.1	7.1	11.8
SLIGHTLY DISAGREE	3	2	2.4	2.4	14.1
NEUTRAL	4	7	8.2	8.2	22.4
SLIGHTLY AGREE	5	14	16.5	16.5	38.8
AGREE	6	32	37.6	37.6	76.5
STRONGLY AGREE	7	20	23.5	23.5	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q12: ANALYZE WORK FLOW PATTERNS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.4	2.4	2.4
DISAGREE	2	1	1.2	1.2	3.5
SLIGHTLY DISAGREE	3	1	1.2	1.2	4.7
NEUTRAL	4	10	11.8	11.8	16.5
SLIGHTLY AGREE	5	12	14.1	14.1	30.6
AGREE	6	28	32.9	32.9	63.5
STRONGLY AGREE	7	31	36.5	36.5	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 85 MISSING CASES 0

Q13: UNDERSTAND AND/OR APPLY STATISTICAL ANALYSIS CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	3	3.5	3.5	4.7
SLIGHTLY DISAGREE	3	6	7.1	7.1	11.8
NEUTRAL	4	8	9.4	9.4	21.2
SLIGHTLY AGREE	5	14	16.5	16.5	37.6
AGREE	6	36	42.4	42.4	80.0
STRONGLY AGREE	7	17	20.0	20.0	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q14: KNOW DOD FINANCIAL MANAGEMENT METHODS, E.G., PPBS, POM

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
NEUTRAL	4	3	3.5	3.5	4.7
SLIGHTLY AGREE	5	20	23.5	23.5	28.2
AGREE	6	34	40.0	40.0	68.2
STRONGLY AGREE	7	27	31.8	31.8	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q15: MANAGE AND/OR INTEGRATE ELEMENTS OF PHYSICAL DISTRIBUTION MANAGEMENT

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	6	7.1	7.1	7.1
DISAGREE	2	6	7.1	7.1	14.3
SLIGHTLY DISAGREE	3	5	5.9	6.0	20.2
NEUTRAL	4	20	23.5	23.8	44.0
SLIGHTLY AGREE	5	18	21.2	21.4	65.5
AGREE	6	19	22.4	22.6	88.1
STRONGLY AGREE	7	10	11.8	11.9	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 4.000
VALID CASES 84 MISSING CASES 1

Q16: MANAGE/CONTROL MAINTENANCE AND/OR PRODUCTION PROCESSES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	6	7.1	7.1	7.1
DISAGREE	2	16	18.8	19.0	26.2
SLIGHTLY DISAGREE	3	12	14.1	14.3	40.5
NEUTRAL	4	18	21.2	21.4	61.9
SLIGHTLY AGREE	5	13	15.3	15.5	77.4
AGREE	6	11	12.9	13.1	90.5
STRONGLY AGREE	7	8	9.4	9.5	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 4.000 MODE 4.000
VALID CASES 84 MISSING CASES 1

Q17: UNDERSTAND DOD INVOLVEMENT IN INTERNATIONAL MILITARY PROGRAMS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	9	10.6	10.7	10.7
DISAGREE	2	12	14.1	14.3	25.0
SLIGHTLY DISAGREE	3	3	3.5	3.6	28.6
NEUTRAL	4	13	15.3	15.5	44.0
SLIGHTLY AGREE	5	22	25.9	26.2	70.2
AGREE	6	19	22.4	22.6	92.9
STRONGLY AGREE	7	6	7.1	7.1	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 84 MISSING CASES 1

Q18: DETERMINE AND/OR EVALUATE IMPACT OF RELIABILITY & MAINTAINABILITY ON WEAPON SYSTEM ACQUISITION

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	4	4.7	4.8	4.8
DISAGREE	2	9	10.6	10.7	15.5
SLIGHTLY DISAGREE	3	3	3.5	3.6	19.0
NEUTRAL	4	9	10.6	10.7	29.8
SLIGHTLY AGREE	5	20	23.5	23.8	53.6
AGREE	6	14	16.5	16.7	70.2
STRONGLY AGREE	7	25	29.4	29.8	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 7.000
VALID CASES 84 MISSING CASES 1

Q19: UNDERSTAND QUALITY CONTROL CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.4	2.4	2.4
DISAGREE	2	9	10.6	10.8	13.3
SLIGHTLY DISAGREE	3	2	2.4	2.4	15.7
NEUTRAL	4	19	22.4	22.9	38.6
SLIGHTLY AGREE	5	18	21.2	21.7	60.2
AGREE	6	22	25.9	26.5	86.7
STRONGLY AGREE	7	11	12.9	13.3	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 6.000
VALID CASES 83 MISSING CASES 2

Q20: BE ABLE TO DEVELOP MODELS FOR EVALUATION OF ALTERNATIVES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	11	12.9	13.1	14.3
SLIGHTLY DISAGREE	3	3	3.5	3.6	17.9
NEUTRAL	4	12	14.1	14.3	32.1
SLIGHTLY AGREE	5	23	27.1	27.4	59.5
AGREE	6	14	16.5	16.7	76.2
STRONGLY AGREE	7	20	23.5	23.8	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 84 MISSING CASES 1

Q21: UNDERSTAND COMPUTER'S LIMITATIONS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLIGHTLY DISAGREE	3	2	2.4	2.4	2.4
NEUTRAL	4	3	3.5	3.6	6.0
SLIGHTLY AGREE	5	14	16.5	16.9	22.9
AGREE	6	34	40.0	41.0	63.9
STRONGLY AGREE	7	30	35.3	36.1	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 83 MISSING CASES 2

Q22: BE ABLE TO PROGRAM A COMPUTER

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	9	10.6	10.7	10.7
DISAGREE	2	11	12.9	13.1	23.8
SLIGHTLY DISAGREE	3	7	8.2	8.3	32.1
NEUTRAL	4	11	12.9	13.1	45.2
SLIGHTLY AGREE	5	21	24.7	25.0	70.2
AGREE	6	14	16.5	16.7	86.9
STRONGLY AGREE	7	11	12.9	13.1	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 84 MISSING CASES 1

Q23: UNDERSTAND AND/OR ANALYZE ORGANIZATIONAL BEHAVIOR

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	2	2.4	2.4	2.4
NEUTRAL	4	4	4.7	4.8	7.1
SLIGHTLY AGREE	5	16	18.8	19.0	26.2
AGREE	6	28	32.9	33.3	59.5
STRONGLY AGREE	7	34	40.0	40.5	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 84 MISSING CASES 1

Q24: BE ABLE TO EXPRESS SELF VERBALLY

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLIGHTLY AGREE	5	4	4.7	4.8	4.8
AGREE	6	19	22.4	22.6	27.4
STRONGLY AGREE	7	61	71.8	72.6	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 84 MISSING CASES 1

Q25: BE ABLE TO EXPRESS SELF IN WRITING

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NEUTRAL	4	2	2.4	2.4	2.4
SLIGHTLY AGREE	5	3	3.5	3.6	6.0
AGREE	6	17	20.0	20.5	26.5
STRONGLY AGREE	7	61	71.8	73.5	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 83 MISSING CASES 2

Q26: UNDERSTAND MICROECONOMIC CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	3	3.5	3.6	3.6
DISAGREE	2	6	7.1	7.2	10.8
SLIGHTLY DISAGREE	3	4	4.7	4.8	15.7
NEUTRAL	4	10	11.8	12.0	27.7
SLIGHTLY AGREE	5	24	28.2	28.9	56.6
AGREE	6	26	30.6	31.3	88.0
STRONGLY AGREE	7	10	11.8	12.0	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 6.000
VALID CASES 83 MISSING CASES 2

Q27: UNDERSTAND MACROECONOMIC CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	4	4.7	4.8	4.8
DISAGREE	2	7	8.2	8.4	13.3
SLIGHTLY DISAGREE	3	3	3.5	3.6	16.9
NEUTRAL	4	21	24.7	25.3	42.2
SLIGHTLY AGREE	5	27	31.8	32.5	74.7
AGREE	6	16	18.8	19.3	94.0
STRONGLY AGREE	7	5	5.9	6.0	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 83 MISSING CASES 2

Q28: USE AND/OR UNDERSTAND QUANTITATIVE DECISION MAKING TECHNIQUES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	4	4.7	4.8	6.0
SLIGHTLY DISAGREE	3	5	5.9	6.0	12.0
NEUTRAL	4	12	14.1	14.5	26.5
SLIGHTLY AGREE	5	28	32.9	33.7	60.2
AGREE	6	20	23.5	24.1	84.3
STRONGLY AGREE	7	13	15.3	15.7	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 83 MISSING CASES 2

Q29: UNDERSTAND AND ANALYZE ACQUISITION PROCESS, MARKET ENVIRONMENT, LOGISTICS CONSIDERATIONS, FINANCIAL ARRANGEMENTS, AND MANUFACTURING

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	4	4.7	4.8	6.0
SLIGHTLY DISAGREE	3	3	3.5	3.6	9.6
NEUTRAL	4	3	3.5	3.6	13.3
SLIGHTLY AGREE	5	17	20.0	20.5	33.7
AGREE	6	30	35.3	36.1	69.9
STRONGLY AGREE	7	25	29.4	30.1	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 83 MISSING CASES 2

Q30: WORKING KNOWLEDGE OF ACQUISITION MANAGEMENT SUBJECTS, E.G., CONTRACTING, SOURCE SELECTION PROCESS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	1	1.2	1.2	2.4
SLIGHTLY DISAGREE	3	2	2.4	2.4	4.8
NEUTRAL	4	1	1.2	1.2	6.0
SLIGHTLY AGREE	5	13	15.3	15.7	21.7
AGREE	6	27	31.8	32.5	54.2
STRONGLY AGREE	7	38	44.7	45.8	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 83 MISSING CASES 2

Q31: WORKING KNOWLEDGE OF MANUFACTURING/PRODUCTION ISSUES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	5	5.9	6.0	7.2
SLIGHTLY DISAGREE	3	10	11.8	12.0	19.3
NEUTRAL	4	8	9.4	9.6	28.9
SLIGHTLY AGREE	5	28	32.9	33.7	62.7
AGREE	6	23	27.1	27.7	90.4
STRONGLY AGREE	7	8	9.4	9.6	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 83 MISSING CASES 2

Q32: SKILLS ACQUIRED FROM AFIT PROGRAM ARE USEFUL IN MEETING CURRENT JOB

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.2	1.2	1.2
NEUTRAL	4	2	2.4	2.4	3.6
SLIGHTLY AGREE	5	13	15.3	15.7	19.3
AGREE	6	39	45.9	47.0	66.3
STRONGLY AGREE	7	28	32.9	33.7	100.0
	9	2	2.4	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 83 MISSING CASES 2

Q33: ABILITY TO CONDUCT IN-DEPTH RESEARCH IS USEFUL SKILL

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	2	2.4	2.4	2.4
SLIGHTLY DISAGREE	3	2	2.4	2.4	4.8
NEUTRAL	4	8	9.4	9.5	14.3
SLIGHTLY AGREE	5	17	20.0	20.2	34.5
AGREE	6	38	44.7	45.2	79.8
STRONGLY AGREE	7	17	20.0	20.2	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 84 MISSING CASES 1

Q34: AFIT DEGREE WOULD BE MORE VALUABLE IN A FUTURE JOB

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	4	4.7	4.8	4.8
DISAGREE	2	7	8.2	8.3	13.1
SLIGHTLY DISAGREE	3	6	7.1	7.1	20.2
NEUTRAL	4	27	31.8	32.1	52.4
SLIGHTLY AGREE	5	13	15.3	15.5	67.9
AGREE	6	16	18.8	19.0	86.9
STRONGLY AGREE	7	11	12.9	13.1	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 4.000 MODE 4.000
VALID CASES 84 MISSING CASES 1

Q35: AFIT MASTER'S MAKES GRADUATE MORE USEFUL TO GOVERNMENT

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.2	1.2	1.2
SLIGHTLY DISAGREE	3	1	1.2	1.2	2.4
SLIGHTLY AGREE	5	6	7.1	7.1	9.5
AGREE	6	23	27.1	27.4	36.9
STRONGLY AGREE	7	53	62.4	63.1	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 84 MISSING CASES 1

Q36: WOULD ENCOURAGE OTHERS TO ATTEND

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
SLIGHTLY DISAGREE	3	1	1.2	1.2	2.4
NEUTRAL	4	4	4.7	4.8	7.1
SLIGHTLY AGREE	5	4	4.7	4.8	11.9
AGREE	6	22	25.9	26.2	38.1
STRONGLY AGREE	7	52	61.2	61.9	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 84 MISSING CASES 1

Q37: AFIT MASTER'S HAS ENHANCED GRADUATE'S CAREER

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	4	4.7	4.8	6.0
SLIGHTLY DISAGREE	3	4	4.7	4.8	10.7
NEUTRAL	4	10	11.8	11.9	22.6
SLIGHTLY AGREE	5	11	12.9	13.1	35.7
AGREE	6	13	15.3	15.5	51.2
STRONGLY AGREE	7	41	48.2	48.8	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 84 MISSING CASES 1

Q38: AFIT DEGREE IS USEFUL TO ON-THE-JOB PERFORMANCE

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.2	1.2	1.2
SLIGHTLY DISAGREE	3	1	1.2	1.2	2.4
NEUTRAL	4	3	3.5	3.5	5.9
SLIGHTLY AGREE	5	11	12.9	12.9	18.8
AGREE	6	35	41.2	41.2	60.0
STRONGLY AGREE	7	34	40.0	40.0	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q39: GRADUATE IS BETTER EQUIPPED TO SOLVE DAILY PROBLEMS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.2	1.2	1.2
SLIGHTLY DISAGREE	3	1	1.2	1.2	2.4
NEUTRAL	4	2	2.4	2.4	4.7
SLIGHTLY AGREE	5	10	11.8	11.8	16.5
AGREE	6	32	37.6	37.6	54.1
STRONGLY AGREE	7	39	45.9	45.9	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 85 MISSING CASES 0

Q40: AFIT DEGREE WILL INCREASE IN VALUE OVER TIME

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	4	4.7	4.7	5.9
SLIGHTLY DISAGREE	3	6	7.1	7.1	12.9
NEUTRAL	4	14	16.5	16.5	29.4
SLIGHTLY AGREE	5	16	18.8	18.8	48.2
AGREE	6	21	24.7	24.7	72.9
STRONGLY AGREE	7	23	27.1	27.1	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 85 MISSING CASES 0

Q41: PROGRAM WAS WORTH GOING THROUGH

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.2	1.2	1.2
DISAGREE	2	4	4.7	4.7	5.9
SLIGHTLY DISAGREE	3	1	1.2	1.2	7.1
NEUTRAL	4	2	2.4	2.4	9.4
SLIGHTLY AGREE	5	9	10.6	10.6	20.0
AGREE	6	24	28.2	28.2	48.2
STRONGLY AGREE	7	44	51.8	51.8	100.0
TOTAL		85	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 85 MISSING CASES 0

Q42: WOULD HAVE PREFERRED NOT TO DO THESIS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	11	12.9	13.1	13.1
DISAGREE	2	11	12.9	13.1	26.2
SLIGHTLY DISAGREE	3	10	11.8	11.9	38.1
NEUTRAL	4	12	14.1	14.3	52.4
SLIGHTLY AGREE	5	15	17.6	17.9	70.2
AGREE	6	10	11.8	11.9	82.1
STRONGLY AGREE	7	15	17.6	17.9	100.0
	9	1	1.2	MISSING	
TOTAL		85	100.0	100.0	

MEDIAN 4.000 MODE 5.000
VALID CASES 84 MISSING CASES 1

Q43: THE PROGRAM DEALT TOO MUCH WITH THEORY

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	16	18.8	18.8	18.8
DISAGREE	2	18	21.2	21.2	40.0
SLIGHTLY DISAGREE	3	19	22.4	22.4	62.4
NEUTRAL	4	15	17.6	17.6	80.0
SLIGHTLY AGREE	5	4	4.7	4.7	84.7
AGREE	6	8	9.4	9.4	94.1
STRONGLY AGREE	7	5	5.9	5.9	100.0
TOTAL		85	100.0	100.0	

MEDIAN 3.000 MODE 3.000
VALID CASES 85 MISSING CASES 0

Q44: THE PROGRAM DEALT TOO MUCH WITH PRACTICAL APPLICATION

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	15	17.6	17.6	17.6
DISAGREE	2	29	34.1	34.1	51.8
SLIGHTLY DISAGREE	3	20	23.5	23.5	75.3
NEUTRAL	4	15	17.6	17.6	92.9
SLIGHTLY AGREE	5	2	2.4	2.4	95.3
AGREE	6	4	4.7	4.7	100.0
TOTAL		85	100.0	100.0	

MEDIAN 2.000 MODE 2.000
VALID CASES 85 MISSING CASES 0

Q45: AFIT MASTER'S HELPED GRADUATE TO GET CURRENT JOB, I.E., GAVE PERSON A COMPETITIVE EDGE

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	8	9.4	9.4	9.4
DISAGREE	2	11	12.9	12.9	22.4
SLIGHTLY DISAGREE	3	3	3.5	3.5	25.9
NEUTRAL	4	10	11.8	11.8	37.6
SLIGHTLY AGREE	5	17	20.0	20.0	57.6
AGREE	6	19	22.4	22.4	80.0
STRONGLY AGREE	7	17	20.0	20.0	100.0
TOTAL		85	100.0	100.0	

MEDIAN 5.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q46: AFIT MASTER'S IS BETTER THAN MASTER'S FROM A CIVILIAN INSTITUTE

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.4	2.4	2.4
DISAGREE	2	7	8.2	8.2	10.6
SLIGHTLY DISAGREE	3	2	2.4	2.4	12.9
NEUTRAL	4	16	18.8	18.8	31.8
SLIGHTLY AGREE	5	15	17.6	17.6	49.4
AGREE	6	25	29.4	29.4	78.8
STRONGLY AGREE	7	18	21.2	21.2	100.0
TOTAL		85	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 85 MISSING CASES 0

Q47: THE PROGRAM WORKLOAD WAS TOO HEAVY

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	7	8.2	8.2	8.2
DISAGREE	2	21	24.7	24.7	32.9
SLIGHTLY DISAGREE	3	9	10.6	10.6	43.5
NEUTRAL	4	13	15.3	15.3	58.8
SLIGHTLY AGREE	5	19	22.4	22.4	81.2
AGREE	6	7	8.2	8.2	89.4
STRONGLY AGREE	7	9	10.6	10.6	100.0
TOTAL		85	100.0	100.0	

MEDIAN 4.000 MODE 2.000
VALID CASES 85 MISSING CASES 0

Appendix E: Computer Analysis of the Supervisors' Responses to Questions on the Perceived Usefulness of AFIT's Graduate Management Programs

Q1: MORE THAN BASIC MATH NEEDED

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
DISAGREE	2	3	4.3	4.4	5.9
NEUTRAL	4	3	4.3	4.4	10.3
SLIGHTLY AGREE	5	8	11.4	11.8	22.1
AGREE	6	26	37.1	38.2	60.3
STRONGLY AGREE	7	27	38.6	39.7	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 68 MISSING CASES 2

Q2: UNDERSTAND AND/OR ANALYZE ACCOUNTING RECORDS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
DISAGREE	2	1	1.4	1.5	2.9
SLIGHTLY DISAGREE	3	6	8.6	8.8	11.8
NEUTRAL	4	7	10.0	10.3	22.1
SLIGHTLY AGREE	5	10	14.3	14.7	36.8
AGREE	6	23	32.9	33.8	70.6
STRONGLY AGREE	7	20	28.6	29.4	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q3: ANALYZE WORK FLOW PATTERNS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLIGHTLY DISAGREE	3	1	1.4	1.5	1.5
NEUTRAL	4	1	1.4	1.5	2.9
SLIGHTLY AGREE	5	17	24.3	25.0	27.9
AGREE	6	31	44.3	45.6	73.5
STRONGLY AGREE	7	18	25.7	26.5	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q4: UNDERSTAND AND/OR APPLY STATISTICAL ANALYSIS CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	3	4.3	4.4	4.4
SLIGHTLY DISAGREE	3	2	2.9	2.9	7.4
NEUTRAL	4	7	10.0	10.3	17.6
SLIGHTLY AGREE	5	4	5.7	5.9	23.5
AGREE	6	28	40.0	41.2	64.7
STRONGLY AGREE	7	24	34.3	35.3	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q5: KNOW DOD FINANCIAL MANAGEMENT METHODS, E.G., PPBS/POM

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
DISAGREE	2	2	2.9	2.9	4.4
SLIGHTLY DISAGREE	3	2	2.9	2.9	7.4
NEUTRAL	4	6	8.6	8.8	16.2
SLIGHTLY AGREE	5	12	17.1	17.6	33.8
AGREE	6	25	35.7	36.8	70.6
STRONGLY AGREE	7	20	28.6	29.4	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q6: MANAGE AND/OR INTEGRATE ELEMENTS OF PHYSICAL DISTRIBUTION MANAGEMENT

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.9	2.9	2.9
DISAGREE	2	12	17.1	17.6	20.6
SLIGHTLY DISAGREE	3	5	7.1	7.4	27.9
NEUTRAL	4	12	17.1	17.6	45.6
SLIGHTLY AGREE	5	14	20.0	20.6	66.2
AGREE	6	14	20.0	20.6	86.8
STRONGLY AGREE	7	9	12.9	13.2	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q7: MANAGE/CONTROL MAINTENANCE AND/OR PRODUCTION PROCESSES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	3	4.3	4.4	4.4
DISAGREE	2	14	20.0	20.6	25.0
SLIGHTLY DISAGREE	3	7	10.0	10.3	35.3
NEUTRAL	4	12	17.1	17.6	52.9
SLIGHTLY AGREE	5	17	24.3	25.0	77.9
AGREE	6	9	12.9	13.2	91.2
STRONGLY AGREE	7	6	8.6	8.8	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 4.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q8: UNDERSTAND DOD INVOLVEMENT IN INTERNATIONAL MILITARY PROGRAMS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	5	7.1	7.4	7.4
DISAGREE	2	10	14.3	14.7	22.1
SLIGHTLY DISAGREE	3	6	8.6	8.8	30.9
NEUTRAL	4	11	15.7	16.2	47.1
SLIGHTLY AGREE	5	20	28.6	29.4	76.5
AGREE	6	12	17.1	17.6	94.1
STRONGLY AGREE	7	4	5.7	5.9	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q9: DETERMINE AND/OR EVALUATE IMPACT OF RELIABILITY & MAINTAINABILITY ON WEAPON SYSTEM ACQUISITION

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	6	8.6	8.8	8.8
DISAGREE	2	3	4.3	4.4	13.2
SLIGHTLY DISAGREE	3	3	4.3	4.4	17.6
NEUTRAL	4	7	10.0	10.3	27.9
SLIGHTLY AGREE	5	13	18.6	19.1	47.1
AGREE	6	11	15.7	16.2	63.2
STRONGLY AGREE	7	25	35.7	36.8	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 68 MISSING CASES 2

Q10: UNDERSTAND QUALITY CONTROL CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
DISAGREE	2	6	8.6	8.8	10.3
SLIGHTLY DISAGREE	3	4	5.7	5.9	16.2
NEUTRAL	4	9	12.9	13.2	29.4
SLIGHTLY AGREE	5	17	24.3	25.0	54.4
AGREE	6	14	20.0	20.6	75.0
STRONGLY AGREE	7	17	24.3	25.0	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q11: BE ABLE TO DEVELOP MODELS FOR EVALUATION OF ALTERNATIVES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	3	4.3	4.4	4.4
DISAGREE	2	3	4.3	4.4	8.8
SLIGHTLY DISAGREE	3	3	4.3	4.4	13.2
NEUTRAL	4	3	4.3	4.4	17.6
SLIGHTLY AGREE	5	16	22.9	23.5	41.2
AGREE	6	19	27.1	27.9	69.1
STRONGLY AGREE	7	21	30.0	30.9	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 68 MISSING CASES 2

Q12: UNDERSTAND COMPUTER'S LIMITATIONS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.4	1.5	1.5
SLIGHTLY DISAGREE	3	1	1.4	1.5	2.9
SLIGHTLY AGREE	5	12	17.1	17.6	20.6
AGREE	6	28	40.0	41.2	61.8
STRONGLY AGREE	7	26	37.1	38.2	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q13: BE ABLE TO PROGRAM A COMPUTER

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	7	10.0	10.3	10.3
DISAGREE	2	8	11.4	11.8	22.1
SLIGHTLY DISAGREE	3	3	4.3	4.4	26.5
NEUTRAL	4	14	20.0	20.6	47.1
SLIGHTLY AGREE	5	17	24.3	25.0	72.1
AGREE	6	10	14.3	14.7	86.8
STRONGLY AGREE	7	9	12.9	13.2	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q14: UNDERSTAND AND/OR ANALYZE ORGANIZATIONAL BEHAVIOR

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.4	1.5	1.5
NEUTRAL	4	9	12.9	13.2	14.7
SLIGHTLY AGREE	5	14	20.0	20.6	35.3
AGREE	6	22	31.4	32.4	67.6
STRONGLY AGREE	7	22	31.4	32.4	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q15: BE ABLE TO EXPRESS SELF VERBALLY

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NEUTRAL	4	1	1.4	1.5	1.5
SLIGHTLY AGREE	5	1	1.4	1.5	2.9
AGREE	6	25	35.7	36.8	39.7
STRONGLY AGREE	7	41	58.6	60.3	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 68 MISSING CASES 2

Q16: BE ABLE TO EXPRESS SELF IN WRITING

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLIGHTLY AGREE	5	2	2.9	2.9	2.9
AGREE	6	20	28.6	29.4	32.4
STRONGLY AGREE	7	46	65.7	67.6	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 7.000 MODE 7.000
VALID CASES 68 MISSING CASES 2

Q17: UNDERSTAND MICROECONOMIC CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
DISAGREE	2	5	7.1	7.4	8.8
SLIGHTLY DISAGREE	3	4	5.7	5.9	14.7
NEUTRAL	4	13	18.6	19.1	33.8
SLIGHTLY AGREE	5	21	30.0	30.9	64.7
AGREE	6	18	25.7	26.5	91.2
STRONGLY AGREE	7	6	8.6	8.8	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q18: UNDERSTAND MACROECONOMIC CONCEPTS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	3	4.3	4.4	4.4
DISAGREE	2	4	5.7	5.9	10.3
SLIGHTLY DISAGREE	3	5	7.1	7.4	17.6
NEUTRAL	4	14	20.0	20.6	38.2
SLIGHTLY AGREE	5	23	32.9	33.8	72.1
AGREE	6	14	20.0	20.6	92.6
STRONGLY AGREE	7	5	7.1	7.4	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q19: USE AND/OR UNDERSTAND QUANTITATIVE DECISION MAKING TECHNIQUES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	3	4.3	4.4	4.4
DISAGREE	2	1	1.4	1.5	5.9
SLIGHTLY DISAGREE	3	1	1.4	1.5	7.4
NEUTRAL	4	6	8.6	8.8	16.2
SLIGHTLY AGREE	5	19	27.1	27.9	44.1
AGREE	6	21	30.0	30.9	75.0
STRONGLY AGREE	7	17	24.3	25.0	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q20: UNDERSTAND AND ANALYZE ACQUISITION PROCESS, MARKET ENVIRONMENT, LOGISTICS CONSIDERATIONS, FINANCIAL ARRANGEMENTS, AND MANUFACTURING

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.9	2.9	2.9
SLIGHTLY DISAGREE	3	3	4.3	4.4	7.4
NEUTRAL	4	6	8.6	8.8	16.2
SLIGHTLY AGREE	5	11	15.7	16.2	32.4
AGREE	6	23	32.9	33.8	66.2
STRONGLY AGREE	7	23	32.9	33.8	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q21: WORKING KNOWLEDGE OF ACQUISITION MANAGEMENT SUBJECTS, E.G., CONTRACTING, SOURCE SELECTION PROCESS

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	3	4.3	4.4	4.4
SLIGHTLY DISAGREE	3	2	2.9	2.9	7.4
NEUTRAL	4	7	10.0	10.3	17.6
SLIGHTLY AGREE	5	8	11.4	11.8	29.4
AGREE	6	24	34.3	35.3	64.7
STRONGLY AGREE	7	24	34.3	35.3	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q22: WORKING KNOWLEDGE OF MANUFACTURING/PRODUCTION ISSUES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.9	2.9	2.9
DISAGREE	2	1	1.4	1.5	4.4
SLIGHTLY DISAGREE	3	6	8.6	8.8	13.2
NEUTRAL	4	13	18.6	19.1	32.4
SLIGHTLY AGREE	5	22	31.4	32.4	64.7
AGREE	6	14	20.0	20.6	85.3
STRONGLY AGREE	7	10	14.3	14.7	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 5.000 MODE 5.000
VALID CASES 68 MISSING CASES 2

Q23: SKILLS ACQUIRED FROM AFIT PROGRAM ARE USEFUL IN MEETING CURRENT JOB

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.4	1.5	1.5
NEUTRAL	4	3	4.3	4.4	5.9
SLIGHTLY AGREE	5	10	14.3	14.7	20.6
AGREE	6	38	54.3	55.9	76.5
STRONGLY AGREE	7	16	22.9	23.5	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 68 MISSING CASES 2

Q24: ABILITY TO CONDUCT RESEARCH IS USEFUL SKILL

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.9	2.9	2.9
DISAGREE	2	1	1.4	1.5	4.4
SLIGHTLY DISAGREE	3	3	4.3	4.4	8.8
NEUTRAL	4	3	4.3	4.4	13.2
SLIGHTLY AGREE	5	12	17.1	17.6	30.9
AGREE	6	18	25.7	26.5	57.4
STRONGLY AGREE	7	29	41.4	42.6	100.0
	9	2	2.9	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 7.000
VALID CASES 68 MISSING CASES 2

Q25: NO ADVANCED EDUCATION IS REQUIRED

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	13	18.6	19.7	19.7
DISAGREE	2	19	27.1	28.8	48.5
SLIGHTLY DISAGREE	3	8	11.4	12.1	60.6
NEUTRAL	4	7	10.0	10.6	71.2
SLIGHTLY AGREE	5	6	8.6	9.1	80.3
AGREE	6	11	15.7	16.7	97.0
STRONGLY AGREE	7	2	2.9	3.0	100.0
	9	4	5.7	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 3.000 MODE 2.000
VALID CASES 66 MISSING CASES 4

Q26: THE AFIT EDUCATION WOULD BE MORE USEFUL ON ANOTHER JOB

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	14	20.0	20.9	20.9
DISAGREE	2	22	31.4	32.8	53.7
SLIGHTLY DISAGREE	3	5	7.1	7.5	61.2
NEUTRAL	4	11	15.7	16.4	77.6
SLIGHTLY AGREE	5	6	8.6	9.0	86.6
AGREE	6	5	7.1	7.5	94.0
STRONGLY AGREE	7	4	5.7	6.0	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 2.000 MODE 2.000
VALID CASES 67 MISSING CASES 3

Q27: JOB IS COMMENSURATE WITH SUBORDINATE'S CAPABILITIES

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.4	1.5	1.5
SLIGHTLY DISAGREE	3	2	2.9	3.0	4.5
NEUTRAL	4	8	11.4	12.1	16.7
SLIGHTLY AGREE	5	8	11.4	12.1	28.8
AGREE	6	29	41.4	43.9	72.7
STRONGLY AGREE	7	18	25.7	27.3	100.0
	9	4	5.7	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 66 MISSING CASES 4

Q28: SUBORDINATE COULD DO JOB WITHOUT ADVANCED EDUCATION

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
DISAGREE	2	11	15.7	16.4	17.9
SLIGHTLY DISAGREE	3	18	25.7	26.9	44.8
NEUTRAL	4	6	8.6	9.0	53.7
SLIGHTLY AGREE	5	15	21.4	22.4	76.1
AGREE	6	14	20.0	20.9	97.0
STRONGLY AGREE	7	2	2.9	3.0	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 4.000 MODE 3.000
VALID CASES 67 MISSING CASES 3

Q29: SUBORDINATE'S AFIT DEGREE GAVE HIM/HER COMPETITIVE EDGE IN GETTING CURRENT JOB

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	4	5.7	6.1	6.1
DISAGREE	2	11	15.7	16.7	22.7
SLIGHTLY DISAGREE	3	7	10.0	10.6	33.3
NEUTRAL	4	22	31.4	33.3	66.7
SLIGHTLY AGREE	5	7	10.0	10.6	77.3
AGREE	6	15	21.4	22.7	100.0
	9	4	5.7	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 4.000 MODE 4.000
VALID CASES 66 MISSING CASES 4

Q30: AFIT MASTER'S DEGREE EDUCATION IS USEFUL TO USAF/DOD

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
NEUTRAL	4	1	1.4	1.5	3.0
SLIGHTLY AGREE	5	9	12.9	13.4	16.4
AGREE	6	39	55.7	58.2	74.6
STRONGLY AGREE	7	17	24.3	25.4	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 67 MISSING CASES 3

Q31: WOULD ENCOURAGE OTHER QUALIFIED CIVILIANS TO ATTEND

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NEUTRAL	4	3	4.3	4.5	4.5
SLIGHTLY AGREE	5	10	14.3	14.9	19.4
AGREE	6	32	45.7	47.8	67.2
STRONGLY AGREE	7	22	31.4	32.8	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 67 MISSING CASES 3

Q32: AFIT MASTER'S DEGREE HAS ENHANCED GRADUATE'S GOVERNMENT CAREER

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	1	1.4	1.5	1.5
SLIGHTLY DISAGREE	3	1	1.4	1.5	3.0
NEUTRAL	4	4	5.7	6.0	9.0
SLIGHTLY AGREE	5	9	12.9	13.4	22.4
AGREE	6	26	37.1	38.8	61.2
STRONGLY AGREE	7	26	37.1	38.8	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 67 MISSING CASES 3

Q33: AFIT MASTER'S DEGREE IS USEFUL TO GRADUATE'S ON-THE-JOB PERFORMANCE

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLIGHTLY DISAGREE	3	1	1.4	1.5	1.5
NEUTRAL	4	4	5.7	6.0	7.5
SLIGHTLY AGREE	5	9	12.9	13.4	20.9
AGREE	6	32	45.7	47.8	68.7
STRONGLY AGREE	7	21	30.0	31.3	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 67 MISSING CASES 3

Q34: GRADUATE IS BETTER EQUIPPED TO SOLVE DAILY PROBLEMS DUE TO AFIT MASTER'S DEGREE PROGRAM

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLIGHTLY DISAGREE	3	1	1.4	1.5	1.5
NEUTRAL	4	7	10.0	10.6	12.1
SLIGHTLY AGREE	5	6	8.6	9.1	21.2
AGREE	6	34	48.6	51.5	72.7
STRONGLY AGREE	7	18	25.7	27.3	100.0
	9	4	5.7	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 6.000 MODE 6.000
VALID CASES 66 MISSING CASES 4

Q35: AFIT MASTER'S DEGREE IS BETTER THAN MASTER'S DEGREE FROM A CIVILIAN INSTITUTE

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
STRONGLY DISAGREE	1	2	2.9	3.0	3.0
DISAGREE	2	5	7.1	7.5	10.4
SLIGHTLY DISAGREE	3	4	5.7	6.0	16.4
NEUTRAL	4	24	34.3	35.8	52.2
SLIGHTLY AGREE	5	15	21.4	22.4	74.6
AGREE	6	10	14.3	14.9	89.6
STRONGLY AGREE	7	7	10.0	10.4	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN 4.000 MODE 4.000
VALID CASES 67 MISSING CASES 3

Q36: AFIT MASTER'S DEGREE IS BETTER THAN NONE AT ALL

VALUE LABEL	VALUE	FRE-QUENCY	PERCENT	VALID PERCENT	CUM PERCENT
DISAGREE	2	1	1.4	1.5	1.5
NEUTRAL	4	3	4.3	4.5	6.0
SLIGHTLY AGREE	5	5	7.1	7.5	13.4
AGREE	6	30	42.9	44.8	58.2
STRONGLY AGREE	7	28	40.0	41.8	100.0
	9	3	4.3	MISSING	
TOTAL		70	100.0	100.0	

MEDIAN	6.000	MODE	6.000
VALID CASES	67	MISSING CASES	3

APPENDIX F: ASD/DPC LETTER OF 20 JUNE 1986

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AERONAUTICAL SYSTEMS DIVISION (AFSC)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6503

REPLY TO ATTN OF: DPC

20 JUN 1986

SUBJECT: Instructions to Complete the 1986 Performance Appraisal for GS/ST Employees

TO: All Supervisors of GS/ST Employees

1. The current performance rating cycle for GS/ST employees ends 30 June 1986. The new performance rating cycle begins 1 July 1986. Both the annual close-out appraisal and the establishment of the new performance plan are accomplished using the AF Form 860, Civilian Performance and Promotion Appraisal. All categories of employees with appointments exceeding 120 days are to receive a rating, including Co-op students (reference attachment 1 to AFR 40-452).

2. Employees entering on duty with the Air Force on or after 3 April 1986 will not receive an annual appraisal on 30 June, but will receive the initial 90-day appraisal when normally due. Employees who have received an initial appraisal between the dates of 3 April - 30 June may have their rating recertified on 30 June. For employees who have transferred to ASD serviced activities from another Air Force activity between 15 May and 30 June, the appraisal will be accomplished by the losing Air Force supervisor. Accomplish the above by following the attached guidance for GS/ST employees (Atch 1).

3. A quality review of the completed appraisals (1985-1986 rating cycle) must be made before the appraisals are sent to ASD/DPCB for input to the Personnel Data System. A quality review of the new performance plans (1986-1987 rating cycle) must also be made before the new plans are in place.

4. Air Force policy prohibits required or predetermined distribution of performance ratings. However, it is necessary to prevent unwarranted rating inflation in both the Manner of Performance Rating (AF Form 860, Part III) and the Overall Performance Rating (AF Form 860, Part IV). Further, it is necessary to stay within funds allocated for cash awards. Therefore, ASD guidelines should be followed to comply with regulatory and administrative constraints. These guidelines are not "hard and fast." Exceptions must be obtained from ASD/CV before finalization of ratings and discussion with employees. Requests for exceptions must be submitted to ASD/DPC by 25 July 1986 and subsequently approved by ASD/CV. "Quotas" on ratings are not proper and must not be established for any organizational element. The guidelines apply to the total GS/ST population in a two-letter organization. For this purpose, the two-letter designation is ASD two-letter, AFWAL/CC, and 4950 TESTW/CC. The following guidelines have evolved historically and reflect past rating trends:

BIRTHPLACE OF AVIATION

a. Manner of Performance Rating (Part III). The ratings assigned to the nine factors are used to compute scores for ranking employees under merit promotion procedures. To provide equity for all employees, it is necessary to assure that supervisors interpret and apply the standards in a consistent manner. Therefore, based on past rating history, an overall guideline for two-letter organizations of 7.2 is used.

b. Overall Performance Rating (Part IV). "Superior" ratings should not exceed 20 percent, and "Excellent" ratings should not exceed 40 percent of the ratings given within the overall organization.

5. Endorsement of performance appraisal ratings will be required for the Logistics and Civilian Personnel career programs. Specific guidance is contained in the attached instructions.

6. Award recommendations must be made based on the annual appraisal. Recommendations must be submitted using the AF Form 1001, Recommendation for Recognition. Include with the AF Form 1001 a copy of the AF Form 860. The allocation of award funds to the two-letter organizations will be made according to the attached guidance.

7. Supervisors who anticipate assigning a rating of less than "Fully Successful" to an employee based on the annual rating should immediately contact the servicing Employee Relations Specialist in ASD/DPCR for assistance if this has not been previously done.

8. All appraisals must be received by the ASD Civilian Personnel Office by 15 August to avoid disruption to the Air Force Merit Promotion Program and to meet AF data processing requirements. Appraisals are to be submitted together as a group by the two-letter office with a transmittal letter that shows the appraisal average for Part III, Appraisal Factors-Manner of Performance Rating and the rating distribution for Part IV, Overall Performance Rating. Additional special guidance is contained in the attachments. Any questions may be addressed to Ms Peggy Nott, ASD/DPCR, extension 54547.

9. In an effort to assist in the rating process, this office has assembled the attached "Answers to Questions Most Often Asked About Performance Appraisals." ASD/DPCR is available to provide training, if requested, for supervisors and/or the Quality Review Committee on the appraisal process. If training is desired, contact Ms Peggy Nott, ASD/DPCR, extension 54547.

RICHARD E. ENDRES
Civilian Personnel Officer
DCS/Personnel

3 Atch
1. GS/ST Guidelines
2. GS/ST Timetable
3. Answers to Questions Most Often Asked About Performance Appraisals

2

ADMINISTRATIVE GUIDELINES FOR PROCESSING PERFORMANCE PLANS AND CURRENT APPRAISALS FOR GS/ST EMPLOYEES

1. A new appraisal cycle begins 1 July 1986. New performance plans should be in place by this date, but not later than 1 September. This is accomplished by completing page 1 and page 2 of the AF Form 860, Civilian Performance and Promotion Appraisal, not including the employee signature block. The new performance plan is sent to the Quality Review Committee (QRC) established by the two-letter chief. After review by the QRC, the plan is returned to the immediate supervisor for discussion with the employee and completion of the signature block on page 1 of the AF Form 860. — ALM

2. The Deputy Secretary of Defense has established requirements regarding the evaluation of employees with access to classified information. Specifically, employees must be evaluated on their discharge of security responsibilities. Accordingly, supervisors must address security responsibilities in the new performance plan (1 July 1986 - 30 June 1987) of all employees whose duties entail access to classified information. This requirement may be addressed in a standard relating to actual job responsibility. The appraisal prepared at the close of the rating cycle (30 June 1987) must include comments regarding an employee's discharge of security responsibilities and indicate whether the supervisor is aware of any action, behavior or condition that would constitute a reportable matter under Air Force security regulations governing eligibility and access to classified information. If the response is affirmative, the supervisor will have to indicate whether an appropriate report has been made.

3. The current appraisal cycle ends 30 June 1986 and the annual appraisal will be accomplished. Supervisors will complete the performance appraisal rating on the AF Form 860, which was developed for the rating period starting 1 July 1985. The form will be completed in pencil and will include the Rater and Reviewer signatures in Part IV of the form. By 18 July, the completed AF Form 860 and the performance award recommendation (AF Form 1001, Recommendation for Recognition, including one copy of the AF Form 860) will be forwarded to the QRC. After the QRC review, the appraisal will then be returned to the supervisor for discussion with the employee and for the employee's signature. Before appraisals are returned by the QRC, the two-letter chief must obtain ASD/CV approval if the rating guidelines are exceeded. Approval is requested by submitting a written request to ASD/CV through ASD/DPC; include average ratings for Parts III and IV (AF Form 860) and justification for exceeding the guidelines. The completed original copy of the appraisal and the award recommendation should be sent to an organization focal point, such as the Management Operations Office, to ensure that all employees were rated. The forms will then be forwarded to ASD/DPCR by 15 August. ASD/DPCR will complete processing of the appraisals and the performance awards. ASD/DPCR will provide award certificates, along with listing of approved awards, to two-letter organization for completion, signature and presentation.

4. All employees who have been on duty with the Air Force at least 90 days by 30 June 1986 will receive the close-out "annual" performance rating. Ratings for employees who receive an "initial" 90-day performance rating between 3 April 1986 and 30 June 1986, may be "recertified" as of

30 June 1986. The supervisor may accomplish this by submitting a photocopy of the AF Form 860 used to give the initial rating, noting in the "Reason for Appraisal" block the word "Recertification" and extending the appraisal period to 30 June 1986. The signature blocks in Part IV of the appraisal should be initialed and redated.

5. Any employee on duty with the Air Force less than 90 days prior to 30 June will receive an "initial" performance rating at the end of the 90-day period. For employees who have transferred to ASD serviced activities from another Air Force activity between 15 May and 30 June, the appraisal will be completed by the losing Air Force supervisor.

6. All employees registered in Logistics and Civilian Personnel career programs require an endorsement for the purpose of assuring rating consistency for equal levels or quality of performance. The endorsement will be accomplished as was done last year, i.e., by the Deputy for Acquisition Logistics (ASD/AL) and DCS/Personnel (ASD/DP) for employees in these career programs.

7. Employees detailed or temporarily promoted to a supervisory position should avoid rating employees they would reasonably be expected to compete against in the merit promotion process. In such cases, the appraisal should be accomplished by the next higher level supervisor.

8. Allocation of awards funds for awards to be paid during the period of 1 July 1986 - 30 June 1987 will be made to the two-letter organization. The allocation will be a percentage of the total aggregate salary of all GS/FWS/ST employees as of 30 June 1986. The exact dollar allocation will be made by separate letter immediately after 30 June.

9. Award recommendations are to be sent to ASD/DPCRH by attaching a copy of the AF Form 860 to the AF Form 1001. It is required that an employee receiving a "Superior" rating must receive some form of recognition. An employee with an "Excellent" rating should be considered for recognition and an employee with a "Fully Successful" rating may be considered for recognition. An award of a Quality Step Increase (QSI) must be accompanied by an annual performance rating of "Superior." QSIs routinely granted to the same employee must be avoided. Sustained Superior Performance Award (SSPA) must be accompanied by an annual performance rating of at least "Excellent." An employee with a "Fully Successful" rating is not eligible for an SSPA or QSI. Additional guidance on cash awards is contained in Chapter 7 of AFR 40-452.

GS/ST PERFORMANCE MANAGEMENT TIMETABLE

DATE	ACTION/EVENT
30 JUN 86	Rating period ends. Complete appraisal rating on AF Form 860.
1 JUL 86	New rating period begins for 86-87 cycle. Effective date for new performance plans.
18 JUL 86	Appraisals to two-letter QRC.*
1 AUG 86	Appraisal returned to supervisor for discussion with employee and signature.
15 AUG 86	AF Form 860 and AF Form 1001 forwarded to ASD/DPCR by two-letter office.
22 AUG 86	Appraisal input to Personnel Data System by ASD/DPC.
1 SEP 86	Rating used for personnel actions. New performance plans must be in place.
14 SEP 86	Awards input to Personnel Data System by ASD/DPC.

*In Pencil

Answers to Questions Most Often Asked About Performance Appraisals

Q: Who receives an annual performance rating?

A: All Air Force civilian employees on appointments of more than 120 days and who have been employees of the Air Force at least 90 days by the end of the 30 Jun rating period (31 Jan for Federal Wage System (FWS) employees). Employees who were appointed less than 90 days prior to the end of the rating period will receive an "initial" appraisal when due (AFR 40-452, 2-2, 2-3, 2-7, Attachment 1). Rating period for GM employees may be extended up to 31 Jul.

Q: Can a supervisor rate an employee when the employee has not been in the position at least 90 days prior to the end of the rating period? This employee is not new to the ASD serviced work force.

A: The supervisor on 30 Jun (31 Jan for FWS employees) will give the appraisal considering the employee's performance in the prior position (AFR 40-452, 2-4). If GM, prior position must have been GM.

Q: Who completes the annual performance rating?

A: In general, the immediate supervisor of the permanent position on 30 Jun (GM, GS, ST) or 31 Jan (FWS employees) is responsible for completing the rating. Exceptions apply when: (1) the supervisor has held the supervisory position less than 90 days; (2) the employee is on a detail or a temporary promotion position; (3) the employee transferred to an ASD serviced activity from another Air Force activity between 15 May and 30 Jun (the rating will be accomplished by the losing Air Force supervisor).

Q: Who gives the rating if there currently is no immediate supervisor or if the immediate supervisor has been in the supervisory position less than 90 days by the end of the rating period?

A: The rating may be given by the second level of supervision. In some cases the second level supervisor may be both the rater and reviewer. The prior first level supervisor should have left sufficient documentation to allow the second level supervisor adequate justification for assigning a rating (AFR 40-452, 2-6).

Q: How should employees on detail or temporary promotion positions as of 30 Jun (31 Jan for FWS employees) be rated?

A: If an annual appraisal is due and the employee has been on the new position at least 90 days, the supervisor of the detail or temporary promotion position completes the rating. If the employee has not been on the detail or temporary promotion position at least 90 days, the rating is completed by the supervisor of the permanent position (AFR 40-452, 2-14).

Q: Should employees who are on extended sick leave or leave without pay (LWOP) receive a rating?

A: Yes, if the employee was actively working in the assigned position at least 90 days during the performance period, assign the rating based on that performance. If the employee did not work at least 90 days during the performance period, assign a rating based on a Fully Successful level of performance and document on the AF Form 860 the specifics of the employee's absence.

Q: How are employees on Long-term Full-time (LTFT) training rated?

A: The rating of employees on LTFT continues from the prior rating cycle through the current rating cycle if the employee has not served for 90 continuous days in their position during current cycle.

Q: Can performance ratings be given at times other than when the initial and annual ratings are due?

A: Only under special circumstances may ratings be assigned at other than those prescribed as the initial or annual rating. An out-of-cycle rating is given when:

1. The employee's performance falls below the Fully Successful level.
2. The employee's performance improves from less than Fully Successful to Fully Successful.
3. The employee has gone more than one year without a rating. (AFR 40-452, 2-5).

Q: When is a Within-Grade-Increase (WGI) withheld?

A: A WGI is withheld whenever the performance rating of record is below the Fully Successful level (AFR 40-452, 2-5a).

Q: What should an employee do if he/she does not agree with the assigned rating?

A: Employees who are not members of a bargaining unit should follow the grievance procedures of AFR 40-771. Employees who are members of a bargaining unit must follow the procedures of the negotiated grievance procedure (AFR 40-452, 1-10).

Q: How are the dollar amounts of the performance awards determined?

A: Each 2-letter organization or Performance Pay Unit is given a dollar allocation which equals a predetermined percent of the 30 Jun aggregate salary of employees assigned. The 2-letter chiefs and Performance Pay Unit Official are then responsible for determining final individual award amounts within the limits of the allocation. Both minimum and maximum dollar amounts for awards are prescribed by higher authority.

Q: What should be done when an employee is not available to sign the rating form?

A: The original AF Form 860 should be submitted to the Personnel Office when due without employee signature, if necessary. The employee signature block should be annotated with the reason for the absence of signature. It is required that the appraisal be discussed with the employee. This should be accomplished at the earliest possible time. The appraisal discussion must be documented on the AF Form 971, Supervisor's Record of Employee.

APPENDIX G: CORRESPONDENCE FROM HQ USAF/LE TO THE COMMANDER OF AIR UNIVERSITY

STAFF SUMMARY SHEET

	TO	ACTION	SIGNATURE (Surname), GRADE AND DATE		TO	ACTION	SIGNATURE (Surname), GRADE AND DATE
1	AF/LET	Coord		6			
	AF/LEY	Coord		7			
3	AF/LE	Sig		8			
4				9			
5				10			

SURNAME OF ACTION OFFICER AND GRADE	SYMBOL	PHONE	TYPIST'S INITIALS	SUSPENSE DATE
Major Fortna	LEXX	52175	tmr	

SUBJECT	DATE
Letter to Lt Gen Richards Regarding Education Concerns	22 MAY 1986

SUMMARY

1. The proposed letter at Tab 1 responds to several concerns voiced by Air Staff logisticians and others (Mr. Peppers' letter at Tab 2 and Mr. Goldfarb's memo to AF/LE at Tab 3) regarding the way the Air University (AU) and the Air Force Institute of Technology (AFIT) are providing education to our logistics personnel.

2. During the last year or so -- especially during discussions at the November 1985 AFIT Curriculum Review and several AU actions since then -- it has become apparent that both the AU/AFIT and the Air Force Logistics communities could benefit from increased focus on certain education programs as well as increased emphasis on improving communications. The time is right to formally address our concerns and propose initiatives to resolve them.

3. The proposed letter, with attachments, discusses four areas where we see the potential for AFIT to improve its continuing and graduate logistics programs. In each case we're not telling AFIT (or AU) how to do its business; rather we're identifying what we see as concrete proposals to improve the quality of students graduating from AFIT.

RECOMMENDATION

4. AF/LE sign proposed letter at Tab 1.

CHARLES P. SKIPTON, Maj Gen, USAF
Director of Logistics Plans & Programs
DCS/Logistics & Engineering

4 Tabs
1. Ltr for AF/LE Sig w/4 Atch
2. Mr. Peppers' Ltr, 12 Nov 85
3. Ms. Goldfarb's Memo, 7 Mar 86
4. AFIT/LSM Ltr, 1 Apr 86 w/Atch w/Atch

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.

Lt General Thomas C. Richards
Commander
Air University
Maxwell AFB, AL 36112-5001

Dear General Richards

During my tenure as DCS/Logistics and Engineering, I have maintained a very active interest in the way we are educating our career logistics officers. Overall I'm pleased with AFIT's graduate civil engineering and logistics programs. However, as customers of this system, we have identified four major areas which could benefit from a degree of fine tuning. Each of these is supported with an attached point paper.

In the Professional Continuing Education (PCE) program, we see the opportunity to develop a logistics continuing education curriculum to provide a logical flow of required courses to our career logisticians. Also, we support development of a PCE-oriented meeting similar to AF/DPP's annual Trained Personnel Requirements conference. In the graduate logistics education area, we're firm about the need for a capstone logistics course being included in the curriculum. Finally, we are convinced the thesis program could be modified to provide a much higher payback to the Air Force.

Obviously, in addressing these concerns to you, I'm asking you and your people to help us out. The Logistics arena is diverse and changing almost every day. Some of the programs and methods of doing business which were valid a few years ago are no longer appropriate. We're ready to work with your AU and AFIT staffs to address the items I've presented here. In light of the current budget and FYDP environment, we need to initiate action as soon as possible. My action officer is Major David Fortna, AF/LEDX, AV 225-4960/52175.

Sincerely

4 Atch
1. B/P, Log Prof'l Continuing Ed
2. B/P, Prop. Ann Ed Rqmts Conf
3. B/P, Graduate Log
4. B/P, AFIT Thesis Program

BACKGROUND PAPER
ON
AFIT THESIS PROGRAM

PROBLEM

The Air Force Logistics community perceives a lack of focus in the AFIT School of Systems and Logistics' thesis program.

BACKGROUND

During the November 1985 AFIT Curriculum Review, there was a great deal of discussion about the AFIT thesis program. These discussions, plus subsequent research regarding AFIT theses developed between 1982 and 1986, raise the question of whether the AFIT thesis program is providing the level and amount of payback that it could reasonably achieve for the Air Force in general and the Logistics community in particular.

DISCUSSION

The AFIT folks describe the flow of thesis development well, i.e., it starts when various agencies are queried about possible thesis topics, or when students propose their own topics based upon past experiences, or when instructors identify specific topics for areas of concern. Here's where the problem lies. The process is too random - there seems to be no layering of thesis efforts to permit a consistency and a focus on accumulation of knowledge.

A primary purpose of the thesis is to provide students with a relevant education. Given this is the case, an important corollary objective must be to generate knowledge. I believe the above thought is fairly consistent throughout the academic world. It's not clear to me, however, that it is practiced within AFIT/LS. The generation of knowledge is a layering process in which additional knowledge is developed based on a foundation of what is known. It requires focus an a specific area/issue, often over a long period of time.

My perception is that AFIT does not pursue this course. The result is a randomnous of theses which over time rarely build on each other.

CONCLUSION

The AFIT thesis program could be revitalized and given a focus to ensure the Air Force and the Logistics community receives an increased payback from the thesis effort.

RECOMMENDATION

The Air Staff Logistics community should develop a list of generalized topics of interest which reflect long-term logistics problems, challenges, or concerns. This list should be presented to AFIT/LS to allow them to establish a process for focusing on these topics and ensuring a continuity of knowledge accumulation over a multi-year period. The list itself, as well as the success or failure of theses to adhere to the topics, should be discussed at an annual joint AF/LE, AU, and AFIT/LS meeting.

Major Fortna
AF/LEXX, 54960
2 May 1986

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Vita

Ms. Claudia N. H. Theis was born on 13 September 1955 in Portland, Oregon. She graduated from high school in Fort Wayne, Indiana, in June 1973. In May 1977, she graduated cum laude from Drury College with a Bachelor of Arts degree in Psychology, Biology and Philosophy. She was also awarded with both Departmental Distinction in Psychology and the Chairman's Award in Biology. She received a Civil Service appointment as a Professional Administrative Career Examination trainee to the Air Force Acquisition Logistics Division in September 1977. While a trainee she worked in the areas of provisioning, support equipment, and as an Integrated Logistics Support Manager for the Precision Location Strike System and the TF-34 engine for the A-10A aircraft. She was the primary logistician for the KC-135 Re-engining and the French C-135 Re-engining Programs. She was the Deputy Program Manager for Logistics for the C-21A/C-12F Operational Support Aircraft Program. In March 1985 she received an Air Force Management Advisory Group position in the Deputy for Acquisition Support in Aeronautical Systems Division, where she assisted in the development of provisioning policy until entering the School of Systems and Logistics, Air Force Institute of Technology, in June 1985.

Permanent Address: 5810 Corlett Ct.
Dayton, OH 45424

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Thesis Chairman: Patrick M. Bresnahan, GM-13
Associate Professor of Logistics Management

Approved for public release IAW AFR 190-1.
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The adequacy of AFIT's Graduate Management Programs for the civilian attendees had not previously been studied. This study assessed the adequacy of these programs for the civilian attendees via surveys mailed to the civilian graduates and their present supervisors. Information on demographics, perceived usefulness of the types of information taught within the Graduate Management Programs, and ways to improve the programs was gathered and analyzed. Recommendations were made to (1) standardize the application, selection and thesis reimbursement procedures across all major commands; (2) have AFIT publicize the Graduate Management Programs in order for them to be better known to the Air Force at large and civilians in particular; (3) supervise the thesis advisors to ensure the theses are of benefit to the USAF or DoD; and (4) provide more practical application of the theories presented to the military environment using current documents generated by different programs offices in different stages of weapon system support. Recommendations for future research were to (1) analyze the Physical Distribution Management and Maintenance and Production Management courses to determine if they should be changed or deleted; (2) analyze the feasibility of career monitoring and qualifying graduates of AFIT's Graduate Management Programs as "Logistics Management Specialists", job series 346; (3) analyze the career progression of the civilian graduates to determine their rate of promotion compared to those who have not attended AFIT's Graduate Management Programs; and (4) analyze the thesis process to restructure it to provide the greatest benefit to the USAF and DoD.