

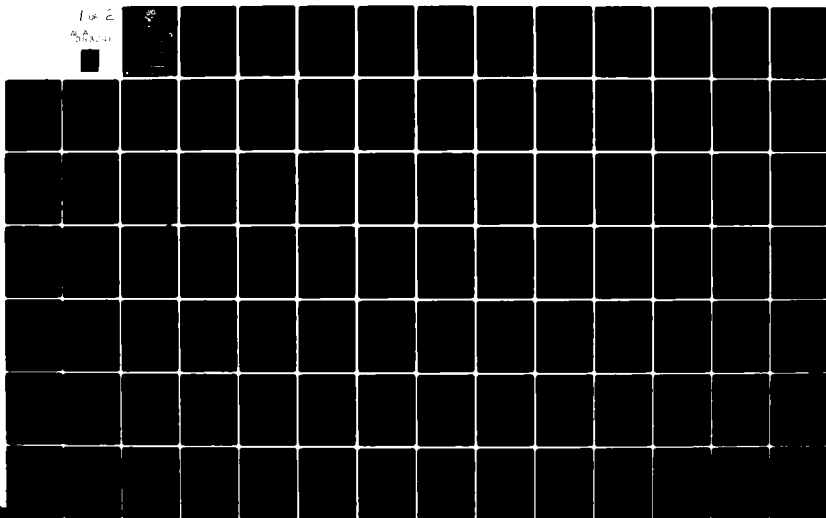
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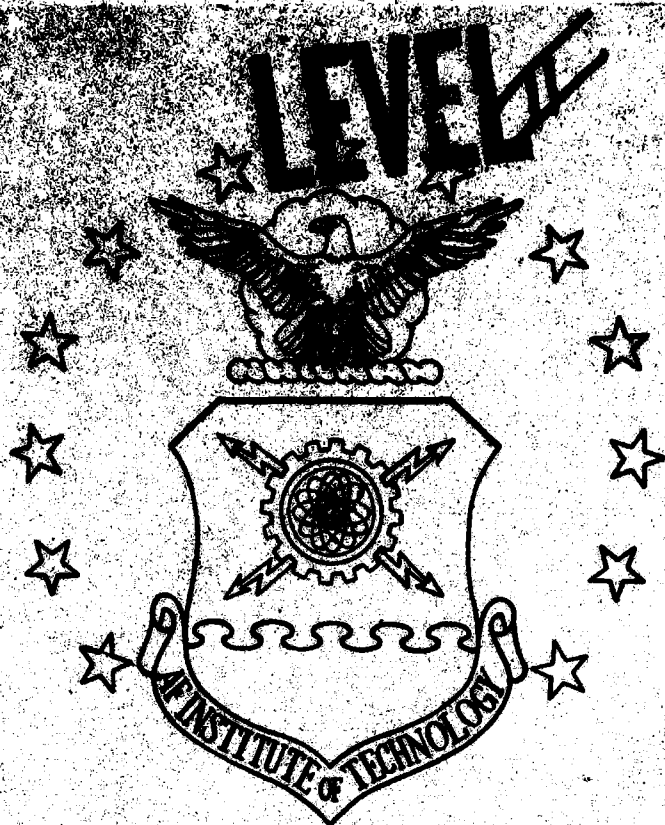
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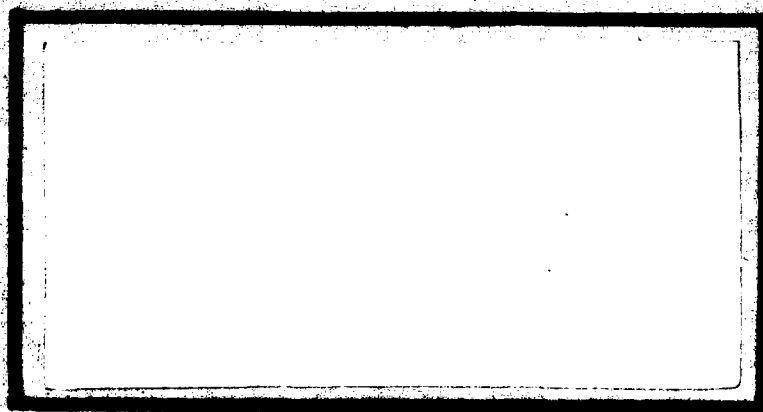


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6 AN EXAMINATION OF OFF-CAMPUS
MASTER'S DEGREE PROGRAMS IN
BUSINESS ADMINISTRATION/
MANAGEMENT CONDUCTED
ON AIR FORCE INSTALLATIONS.

1 Duane C. Johnson, Captain, USAF

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The purpose of this study was to examine master's degree programs in business administration/management conducted on Air Force bases. Two specific objectives were identified: determine which postsecondary institutions sponsored such on-base graduate programs; and by analyzing three indicators of academic quality assurance, determine if requirements of on-base programs are consistent with requirements of similar in-resident programs of the parent institution. Three significant findings were noted. During 1976-1979 eleven institutions accounted for 80.7 percent of the degrees awarded. Though granting an overwhelming majority of the degrees, these institutions comprised only 20 percent of the institutions participating in this kind of nontraditional education. In terms of three indicators of academic quality assurance, inconsistencies between quality requirements of an institution's in-resident and on-base graduate programs were noted with all eleven institutions analyzed. Inconsistencies ranged from minor deviations for in-resident school policy to obvious indications of double standards for off-campus and in-resident programs. Finally, through a comparison of the on-base quality assurance practices of eleven institutions, extreme disparity among the institutions was noted. Such disparity reflects the varying degree of quality assurance exercised by each institution in the on-base graduate education environment.

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AN EXAMINATION OF OFF-CAMPUS MASTER'S DEGREE
PROGRAMS IN BUSINESS ADMINISTRATION/
MANAGEMENT CONDUCTED ON AIR
FORCE INSTALLATIONS

A 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 Systems Management

By

Duane C. Johnson, BS
Captain, USAF

September 1980

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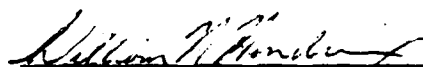
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Captain Duane C. Johnson

and approved in an oral examination, has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN SYSTEMS MANAGEMENT

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Finally, it is only fitting that I recognize the integral role my wife had in the successful completion of this thesis. Her understanding and encouragement served as the catalyst in maintaining my motivation during the entire experience. And to my children I dedicate this thesis for "when I approach a child, he inspires in me two sentiments: tenderness for what he is, and respect for what he may become [Louis Pasteur]."

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CHAPTER I

INTRODUCTION

Background

Education as a lifelong process is an accepted objective of the armed forces. Refined skill requirements and increased career specialization have contributed to a greater emphasis on continuing education for the professional development of military officers. With this added interest in continuing education has come a growing requirement for advanced degrees. One avenue which service members pursue to achieve their education objectives is to voluntarily enroll in graduate education programs offered on military installations by civilian postsecondary institutions.

Before discussing the current state of off-campus graduate education conducted on Air Force installations, two kinds of mini-histories are essential background. The first is a brief chronicle of the military's developing interest in on-base postsecondary education. The second is a brief overview of the recent emergence in the United States of nontraditional education--a development which has had a tremendous impact in the form and substance of postsecondary education available to military members at home and abroad.

The Military and Education

Postsecondary education is a subset of military education. The need for the latter dates back to 1778 when George Washington saw the importance of basic education to soldier morale and effectiveness. During the 19th century, illiteracy among military recruits was a continuing problem. The Congress subsequently made provisions for military-post schools to overcome this inadequacy. At the officer level, the service academies at West Point and Annapolis were created early in our nation's history to insure an educated officer corps for the Army and Navy. In addition, the Army Reorganization Act of 1886 " . . . led to the establishment of college-level courses responsive to the Army's concern for increased professionalism among officers [7:42]." Ultimately, ROTC programs, staff colleges and specialized military schools, and various officer-oriented fellowship programs on university campuses became extensions or derivatives of the Act of 1886.

During World War I, with the passage of the Mobilization Act of 1916, the Congress set " . . . the basis for establishing large-scale soldier education programs at the college-level in overseas areas [7:2]." It was not until World War II and the passage of the Mobilization Act of 1941 that a General Educational Development Program emerged as an essential element of Army activities. The General Educational Development Program emphasized high-school

level achievements, but also included were opportunities for college-level work via correspondence courses (5:7).

In the post-World War II period, with the military becoming more complex technologically and more dispersed geographically, new programs emerged to facilitate and foster postsecondary education on or near military installations worldwide.

With the implementation of the All-Volunteer Force in 1973, postsecondary educational opportunities for military personnel were viewed by the military services as positive incentives for recruitment and reenlistment. This increased emphasis on postsecondary educational opportunities was met by a corresponding willingness on the part of many civilian educational institutions to establish their academic programs on military installations locally, nationally, and internationally. During this period many colleges and universities viewed the expanding role of off-duty postsecondary education on military installations as a potentially lucrative market that would also involve them in a valued educational service (3:50).

By 1978, more than 800,000 service members were enrolled in postsecondary courses and programs on or near military installations around the world--courses and programs administered mainly through extension services or "satellite" campuses of hundreds of American colleges and universities (12:109).

Today one of the largest postsecondary enterprises in

America is under the jurisdiction of the Department of Defense. In size it can be compared to the state educational systems like those of California and New York (5:1). Using dollars as a means of measurement, the Department of Defense's off-duty, postsecondary education budget for fiscal year 1978 was \$86 million (33:6).

The Nontraditional Education Movement

Recent educational developments within the military have taken place in parallel with changes in American postsecondary education itself. Since the 19th century degree-by-examination programs, correspondence courses, and extension programs have been means by which a consumer of education could achieve desired educational objectives. But since the late 1960s moves toward "nontraditional studies," "external degrees," "open universities," and "life-long learning" have represented genuine innovations in the direction and availability of American postsecondary education (6:276). Based on the assumption that people can learn in a variety of ways and that people should receive academic credits and even degrees on the basis of demonstrated knowledge and performance rather than on the basis of simply the number of classroom hours spent on academic campuses, the "nontraditional" education movement has spread widely during the last decade.

The important point to be noted is that without the

nontraditional education movement the elaborate system of post-secondary education now existing on or near military installations could not have developed. As a result of this movement such practices as academic credit apart from traditional residency requirements, academic credit by examination, academic credit for certain types of life experience, and enhanced credit-transfer arrangements among academic institutions are common occurrences in today's nontraditional education environment (27:283).

Statement of the Problem

Until a few years ago, college-level instruction for service personnel offered on military installations was conducted by only a few postsecondary institutions, and control and monitoring were relatively simple. It was easy to ascertain who was doing what, where, and for whom. During the 1970s the number and variety of institutions sponsoring on-base education programs have increased significantly. Almost every kind of educational institution is represented among the host of providers that offer a multitude of courses and degree programs.

The rapid expansion of the nontraditional education movement on military installations by postsecondary institutions and the increased number of military students enrolled in such degree programs have triggered a great deal of debate about the criteria used

in establishing the programs and the quality of the courses offered.

The issue surrounding this debate can best be illustrated by citing testimony given before the Committee on Appropriations of the House of Representatives during hearings on the fiscal year 1979 budget. The testimony reflects the military's position concerning off-campus graduate education for its officer corps.

The Services don't have adequate data on officers who have graduate education obtained outside the fully funded program . . . Graduate education obtained from other than the fully funded program has questionable potential for replacing any substantial part of the fully funded program [34:53].

In addition, a quote from a study published by the American Council on Education summarizes the problem of how there is insufficient data concerning the extent of participation by service personnel in off-campus postsecondary education programs on military bases.

No one has maintained data on the number of degrees earned or courses taken over the past two decades as the American colleges and universities have worked with the Services to provide education to service personnel around the world in times of war and peace [25:16].

Because of the concern expressed over and the lack of data pertaining to postsecondary education, and specifically graduate education, conducted on military bases, a need exists for an examination of off-campus master's degree programs conducted on Air Force installations. To limit the scope of this endeavor only off-campus master's degree programs in the general academic area of business administration/management will be examined.

Definition of Terms

The purpose of this research is to examine the magnitude and quality of off-campus master's degree programs in the business administration/management area of study that are conducted on Air Force installations. To provide a common framework on which to build this thesis effort, it is necessary to first define some key terms.

Academic Specialty Code

An academic specialty code is a four digit alpha numeric identifier which is used in the Automated Personnel Data Systems to define the academic qualifications of Air Force officers. The four digits denote the:

1. general area of study,
2. major academic field,
3. specialization, and
4. sub-specialization.

The general areas of study are nine groupings of closely related fields plus an inter-area specialization which contains academic specializations related to two or more of the general areas of study. Subdivision of the general area of study is by major academic field. This indicates completion of at least 18 semester hours in the particular major academic field. Specialization is a subdivision of the major academic field and is used to signify the completion of three

related courses. Accounting is an example of specialization in the major academic field of business administration/management.

Usually specialization is the closest identifier of academic achievement; however, the fourth digit of the code may be used to denote a group of courses or on-the-job experiences which relate to a specialization (38:p.1-2). For example, cost accounting is a sub-specialization of accounting.

The ten general areas of study are shown in Appendix A. The complete listing of major academic fields and their associated specializations/sub-specializations is contained in AFM 300-4, Unclassified Data Elements and Codes (42:Vol.7).

Accreditation

Simply stated accreditation means acceptance into a membership. When the term is used in reference to a postsecondary institution it applies to the overall educational institution, not to each of its separate degree programs. Thus, to be accredited means that the entire institution is judged in compliance with the established criteria or standards of the accrediting commission. Accreditation is essentially institutional membership in a voluntary association of institutions. The criteria of membership are the collective expressions of common values and practices of that membership in a voluntary peer-group association (19:83).

From the standpoint of off-campus programs the issue of accreditation arises when an institution proposes, or agrees, to offer a degree program on a military base which is not also conducted on the home campus. Such an endeavor is not necessarily improper; but it does require additional effort on the part of the accrediting commission to assure that the degree program falls within the accreditation of the parent institution (1:53).

Graduate Education

Graduate education is formal study beyond the baccalaureate level. Graduate education usually culminates in the awarding of an advanced degree. The terms "graduate education" and "postgraduate education" can be used interchangeably (17:531).

Line Officer

An officer engaged in operational duties is referred to as a line officer (20:301). In addition to chaplains, medical and legal officers are not classified as members of this population.

Master's Degree

The master's degree is an academic degree awarded for completion of a graduate level course of study. The master's degree ranks above the bachelor's degree and below the doctorate. It is granted for a wide range of work which varies from one year to as

much as three years. Standards for completion frequently vary among institutions and occasionally differences exist within a single department of an institution. In many academic fields, the master's degree is considered a terminal degree; while in other fields, it is gained in the course of pursuing a doctoral degree (17:160).

Nontraditional Higher
Education Program

Such a program can best be defined as one which is not dependent upon:

1. traditional credit and class-hour specifications,
2. campus residency requirements,
3. existence of a full-time faculty,
4. ready availability of a library, counseling, and other learning resources, and
5. rigidly defined requirements.

A nontraditional higher education program would more likely be characterized by:

1. flexibility and individualization in programs,
2. convenience to students in location and scheduling of courses,
3. use of adjunct, temporary faculty members, and
4. special attention and relevance to individuals employed full time (12:115).

Off-Campus Degree Program

An off-campus program is an academic degree program that is primarily nonresidential in nature (43:4). For the purposes of this research it is a program in which academic instruction is conducted at selected Air Force installations and as such the program is divorced from the physical confines of the parent, sponsoring campus. "Off-campus" and "external" are synonymous terms when used in reference to such a degree program.

Traditional Higher Education Program

Such a program can best be defined as one which contains some or all of the following characteristics:

1. a full-time, resident faculty with considerably more advanced degrees than the ones they confer themselves,
2. full-time, resident students who not only take "full" course loads but also participate in campus life,
3. a campus--a given, physical location where essentially all of the instruction takes place,
4. a curriculum that intertwines teaching and testing,
5. an institution administered by people who are academics first and managers second and where most decisions, beyond relatively straightforward administrative ones, are made by the faculty as a whole, and

6. an institution that provides directly for all the instruction and learning resources the curriculum usually requires of its students (2:16).

Literature Review

A review of the literature pertinent to off-campus graduate education neither revealed any previous studies designed specifically to (1) identify postsecondary institutions sponsoring off-campus degree programs on Air Force installations, nor (2) compare the quality assurance requirements of parent, sponsoring institutions with the requirements of their off-campus graduate programs that are tailored for the military clientele. The majority of the studies reviewed addressed either the issue of accreditation of off-campus graduate programs or the issue of defining what criteria should be used to evaluate the overall academic quality assurance of such degree granting programs.

For example, an excellent report that addresses the accreditation issue was recently published by the Council on Postsecondary Accreditation (COPA). The major recommendation of the report is that postsecondary institutions that sponsor off-campus degree programs on military bases should adopt a single, national policy of providing consistent and high-quality instruction to military personnel (1:78-84). The report goes on to recommend that such a national

policy should define the roles, relationships, and duties of all parties involved in on-base educational programs for the protection of military students. The report concludes by listing eleven specific guidelines that COPA endorses as fundamental building blocks in the formulation of a national policy (1:63-68).

A study published by the American Association for Higher Education provided valuable insight into the issue of academic quality assurance of postsecondary programs on military installations. The study was devoted to a description and appraisal of college programs conducted on military bases. The study focused on "the problem of academic quality control in unusual (sometimes bizarre) settings [5:vi]." To evaluate academic quality control, the study listed sixteen principles and practices that, according to the author, contribute to high-quality collegiate and university-level programs on military bases (5:3-5).

Finally, a review of an Air Force Audit Agency report on off-duty military education provided an interesting examination of this topic from the "bluesuit" perspective. The purpose of the audit was to review the effectiveness of Air Force management of the education services program by evaluating the overall administration, effectiveness, efficiency, and economy of off-duty education programs and requirements (41:1). Audit emphasis was directed toward the selection, retention, and administrative support of academic

institutions conducting on-base education programs.

Scope

Over the last few years the subject of off-campus graduate education on Air Force installations has received increased scrutiny. Currently one major area of concern is the issue of accreditation of these off-campus graduate programs. In addition, during the last two years the issue of what criteria should be used to measure the overall academic quality of such programs has received increasing critical review. The increased attention in this area is evident by the scores of articles that have appeared in professional education journals and the numerous research studies that have been published which specifically have this issue as the central theme. Two organizations which have actively studied these issues are the American Association for Higher Education and the Council on Postsecondary Accreditation.

Rather than attempting an examination of these macro-issues, it is felt that a comprehensive study from a micro-perspective would make a more valuable contribution to resolving the larger issues of accreditation and quality assurance of off-campus graduate programs on Air Force installations. Therefore, the initial thrust of this research effort is on identifying the specific postsecondary institutions engaged in off-campus master's degree programs on Air Force installations. From this population, a representative sample of

institutions will be selected. From this sample the off-campus and in-residence programs of each institution will be compared in terms of certain accepted indicators of quality assurance. The intent of this comparison is to investigate for possible inconsistencies between the quality assurance requirements of in-residence programs offered by the parent institution and the requirements of their off-campus graduate programs sponsored on Air Force installations.

To further reduce the scope of this study to a manageable level, consideration is given only to postsecondary institutions offering an off-campus master's degree program in the general study area of business administration/management as defined in AFM 300-4. The area of business administration/management was selected because the majority of master's degrees awarded annually to Air Force officers through off-campus programs are classified in this general area. Because the impetus of this study is the examination of off-campus, nontraditional master's degree programs, graduate programs conducted by the Air Force Institute of Technology resident school and civilian institutions offering only in-residence degree programs will not be addressed.

In order to conduct a comparative analysis of the academic quality assurance requirements of the parent institutions and their off-campus military programs, it was first necessary to review the academic transcripts of Air Force officers who have been awarded a

master's degree through an off-campus graduate program. This review was necessary to ascertain the academic requirements of the off-campus programs. Thus within the general study area of business administration/management, the population of interest was Air Force line officers who received a master's degree through an off-campus, on-base program between 1 January 1976 and 31 December 1979 and were still serving on active duty as of 1 May 1980. This constraint in the line officer population was imposed in order to collapse the population from 9980 to 5726 officers.

Research Objectives

The objectives of this research are twofold. The first objective is to perform a descriptive analysis of the postsecondary institutions which have participated in off-campus, nontraditional graduate education programs on Air Force installations. Objective two is to conduct a comparative analysis of the requirements of off-campus master's degree programs and the requirements of resident programs of the parent, sponsoring institution. The comparative analysis will be accomplished by examining three indicators of academic quality assurance; undergraduate grade-point average (GPA) required for admission into a master's degree program, amount of credit allowed for transfer of equivalent course work, and amount of credit granted for military/life experience.

Research Questions

In order to accomplish the research objectives, the following questions have been formulated to guide the research effort.

1. Which postsecondary institutions participate in off-campus, nontraditional graduate education programs on Air Force installations?

2. In terms of three indicators of academic quality assurance, are the requirements of off-campus master's degree programs consistent with the requirements of similar in-residence programs of the parent, sponsoring institution?

In Chapter II an overview of the research methodology used in this study is presented. The methodology is designed to satisfy the requirements of the research objectives and specifically answer the research questions. The methodology also describes the three phases that constitute the research effort for this thesis.

CHAPTER II

METHODOLOGY

Introduction

The research was conducted in three phases: (1) data collection, (2) data analysis, and (3) presentation of findings. Collectively, these phases comprised the research methodology and provided the basis in which to answer the research questions and satisfy the research objectives stated in Chapter I.

Data Collection

The data required to answer the first research question were obtained from two primary sources. The first source was an automated report containing educational data on 9980 Air Force officers. The data for this report were extracted from the data base of the Automated Personnel Data Systems (APDS) maintained at the Air Force Manpower and Personnel Center (AFMPC), Randolph AFB, Texas. Appendix B contains a copy of the letter of request for this educational data. The data were obtained from AFMPC through the Personnel Systems Branch of the Air Force Institute of Technology (AFIT) Military Personnel Office.

As stated in Chapter I, the population of interest for this research effort consisted of Air Force line officers on active duty as of 1 May 1980 who have earned a master's degree in the academic area of business administration/management through an on-base education program. To assure that the APDS report contained the desired information, the letter of request specified that only officer records containing a master's degree identified by an APDS academic specialty code of "1A__" be selected. As shown in Appendix A, the "1" digit identifies the general area of study; administration, management, and military science. To narrow this broad area of study, an "A" specified as the second digit identifies the major academic field of business administration/management. Reference Table 1 for a list of the specific academic specialities classified within the "1A__" academic field.

The "method used in obtaining academic education" was another important constraining variable used to focus on the data pertinent to this study. Table 2, extracted from AFR 35-25, Educational Classification and Coding Procedures, identifies the classifications used to describe the various avenues available to Air Force officers desiring to obtain graduate education. There are two classifications applicable to on-base graduate education. They are tuition assistance and none/not applicable. The first classification is self-explanatory. The second one, none/not applicable, requires a brief

TABLE 1
ACADEMIC SPECIALTIES CLASSIFIED WITHIN THE
BUSINESS ADMINISTRATION/MANAGEMENT
AREA OF STUDY (42:D13 to G13)

Accounting	Industrial or Production Management
Applied Comptrollership	Insurance
Aviation Management	Logistics Management
Business Administration	Marketing
Business Economics	Personnel Administration
Business Law	Real Estate
Business Statistics & Quantitative Methods	Research & Development Management
Engineering Management	Safety Management
Finance	Systems Management
Food Service & Institutional Management	Transportation Management
General Management	

explanation of its application. For example, an officer eligible for and electing to use the in-service GI Bill as a means of financing off-duty education would be included in this classification. In addition, an officer enrolled in a postsecondary education program and not receiving either in-service or Veterans Administration financial assistance would also be reflected in this category.

Though the APDS listing contains educational data on Air

TABLE 2
METHODS OF OBTAINING GRADUATE
EDUCATION (38:A-4)

AFIT School of Engineering
AFIT School of Systems and Logistics
AFROTC Educational Delay Program
Bootstrap Program (Nonterminal or Terminal TDY)
Civilian Institution AFIT Sponsored
Minuteman Program
Scholarship Programs
Special Master's Degree Program (AFA graduates only)
Tuition Assistance Program
None/Not Applicable

Force officers who have earned a master's degree, a weakness of the APDS data base is that it does not distinguish between officers whose master's degree was obtained through an on-base program and officers who earned a master's degree by attending a postsecondary institution in-residence during their off-duty hours. Therefore a second data source was needed to identify the postsecondary institutions offering off-campus graduate education program(s) on Air Force installations. The information was provided by AFP 213-2, Educational Opportunities on Air Force Bases. This extremely useful

publication identified the postsecondary institutions sponsoring master's degree programs on Air Force bases world-wide. In addition, the pamphlet provided information on the specific academic program(s) offered by each institution.

Thus having obtained a means of identifying (1) the postsecondary institutions participating in on-base graduate education, and (2) the specific academic program(s) offered by each institution, the educational data contained in the APDS listing could be analyzed to obtain the answer to the first research question; which postsecondary institutions sponsor off-campus master's degree programs in business administration/management on Air Force installations?

The second research question involved the use of three indicators of academic quality assurance as a basis for a comparative analysis of the requirements of an institution's off-campus master's degree program(s) and the requirements of similar in-resident program(s) offered by the parent, sponsoring institution. Collection of data from two sources was required to answer this question.

Because this portion of the research effort was limited to the eleven postsecondary institutions having the greatest participation in on-base graduate education, a logical source for data was the graduate school catalogs of these eleven institutions. The catalogs were obtained from the Wright State University Library and the AFIT Transcript Repository. Review of each institution's graduate school

catalog was necessary to obtain the in-resident requirements for the three academic quality assurance indicators analyzed in this portion of the study. The quality assurance indicators extracted from each catalog were: (1) the minimum undergraduate GPA required for acceptance into the business administration/management graduate program, (2) the amount of academic credit awarded for transfer of equivalent course work, and if stated (3) the amount of academic credit awarded for military/life experience.

To complete the collection of data so that a comparative analysis using the three indicators could be accomplished, it was necessary to also obtain data related to each institution's off-campus graduate program(s). This data were obtained from the AFIT Transcript Repository. The collection of data was accomplished by reviewing two source documents; official academic transcripts and AFIT Form 0-95, Educational Record, from a representative sample of Air Force officers who received their business administration/management master's degree through an on-base program sponsored by one of the eleven institutions under study.

Thus having obtained data on the quality assurance requirements of the eleven institutions for both their off-campus and in-residence business administration/management graduate programs, a comparative analysis of the programs could be conducted to obtain the answer to the second research question.

Data Analysis

The emphasis of this research effort was on identifying the specific postsecondary institutions engaged in off-campus graduate education on Air Force installations. As stated in the preceding section, AFP 213-2 was the source document used to develop a list of the postsecondary institutions participating in this method of nontraditional education. Having accumulated this information, the APDS listing produced by the Air Force Manpower and Personnel Center was used to compute the number of business administration/management master's degrees granted to Air Force officers by each institution. This information is presented in Chapter III.

Because the APDS listing contained educational data extracted from the personnel records of 9980 Air Force officers, the mere volume of data prohibited a complete review of all records. A review of this magnitude was considered prohibitive from the standpoint of the manhours required to accomplish such a monumental task. Therefore a four year "window period," 1976 through 1979, was identified from which to select the target population required for this study. By focusing on the 1976 through 1979 period, the initial APDS listing was reduced from 9980 to 6206 records. Included in this collapsed population, though, was educational data pertaining to officers who had earned a master's degree by attending a college or

university in-residence during off-duty hours. Because such data were not required for this study, these records were filtered from the target population. A total of 480 records were identified and subsequently eliminated from the population of interest. Of the 480 records removed, 111 records reflected educational data on officers who had earned a master's degree through the Air Command and Staff College cooperative master's degree program sponsored by Auburn University. Due to the specialized offering of this program, the program was not considered an on-base graduate program for the purposes of this study. With the reduction of 480 records, the population of interest was adjusted to 5726 records.

As will be discussed in Chapter III, during the 1976 through 1979 period eleven of the postsecondary institutions sponsoring on-base graduate programs in business administration/management accounted for 80.7% of the master's degrees awarded. Though these eleven institutions granted an overwhelming majority of the degrees, in any one year during the 1976-1979 period, they only comprised 20% of the total number of institutions which participated in this kind of off-campus, nontraditional education. Based on this finding, a comparative analysis of the academic quality assurance requirements of an institution's off-campus and in-residence graduate programs was limited to these eleven institutions.

Information on the quality assurance requirements of the

in-residence programs was easily obtainable. A review of a graduate school catalog published by each institution provided the means of gathering this information.

Securing information on the quality assurance requirements of the off-campus programs proved to be a much more difficult and time consuming undertaking. Of the 5726 officer records comprising the total population, 4619 records reflected educational data on officers who had received a master's degree from one of the eleven institutions of interest in this portion of the study. Because of such a vast quantity of records, a statistical sampling technique was employed to gather data on the academic quality assurance requirements of the off-campus graduate programs. A total of 765 records were included in the sample. The number of records reviewed varied among the eleven institutions and ranged from 50 to 115 records. Reference Appendix C for the design of the sampling technique used to select a representative sample from the 4619 record target population. Having captured the required data, a comparative analysis between the off-campus and in-resident graduate programs of the eleven institutions was accomplished.

Presentation of Findings

The remainder of this thesis is devoted to a description of the data collected during the research phase of the study and a

presentation of the findings obtained from the application of the research methodology. Specifically, Chapter III identifies the post-secondary institutions which have sponsored graduate program(s) in business administration/management on Air Force installations during the 1976-1979 period. Two measurements are used to indicate the extent of participation by each institution in on-base graduate education. One is the total number of master's degrees awarded annually and the other measurement is the number of Air Force bases in each MAJCOM offering a master's degree program sponsored by a particular institution. Based on the findings of Chapter III, Chapter IV proceeds to analyze the academic quality assurance requirements of the eleven postsecondary institutions having the greatest participation in on-base graduate education market. The analysis is accomplished by comparing the quality assurance requirements of off-campus programs with the requirements of similar programs offered in-residence by the parent, sponsoring institution. Three measurements of quality assurance are used as the basis for this comparative analysis. The concluding chapter, Chapter V, contains a summary of the research effort, lists conclusions, and offers recommendations for future study.

CHAPTER III

POSTSECONDARY INSTITUTIONS SPONSORING ON-BASE GRADUATE EDUCATION

Master's Degrees Awarded Classified by Academic Specialty

The intent of this research effort is to examine the topic of off-campus master's degree programs offered on Air Force installations. Though the crux of this endeavor is to identify specific postsecondary institutions which have sponsored this kind of nontraditional graduate education, a table depicting the overall number of master's degrees awarded annually to Air Force officers during the 1976-1979 period would serve as a useful starting point from which to begin such an undertaking. In Table 3 the number of master's degrees awarded in each of the academic specialties classified within the business administration/management area of study is presented. A detailed breakout of Table 3 is provided in Appendix D. This appendix presents a complete shredout by academic specialty of the number of master's degrees awarded annually by each institution through on-base graduate education programs.

As Table 3 indicates, during the 1976-1979 period master's degrees were awarded in seventeen of the twenty-one academic

TABLE 3
MASTER'S DEGREES AWARDED CLASSIFIED
BY ACADEMIC SPECIALTY

<u>Academic Specialty</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Accounting	4	3	2	2
Aviation Management	1	2	7	20
* Business Administration	304	322	364	319
Business Economics	11	3	1	1
Business Law				1
Business Statistics & Quantitative Methods		1		
Engineering Management	11	15	7	6
Finance	4	3	4	2
Food Service & Institutional Management	5	5	1	1
* General Management	759	915	616	619
Industrial or Production Management	84	88	81	43
Logistics Management	4	13	31	34
Marketing	1	1		
* Personnel Administration	199	269	247	186
Safety Management	25	30	28	17
Systems Management		2		
Transportation Management	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
Total	1413	1672	1390	1251

*For the contribution of these specific academic specialties expressed as a percentage of the total number of degrees awarded reference Table 3--Continued.

TABLE 3--Continued

<u>Academic Specialty</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Business Administration	21%	19%	26%	26%
General Management	54	55	44	49
Personnel Administration	14	16	18	15
Total	89%	90%	88%	90%

specialties comprising the business administration/management area of study. Table 3 also shows that of the total number of master's degrees awarded to Air Force officers in the business administration/management area of study, approximately 90% of the degrees were awarded in three academic specialties which comprise the broadest categories in this study area, i.e. business administration, general management, and personnel administration. The seemingly disproportionate number of officers possessing an advanced degree in one of these three "general" specialties is not an issue in this thesis. The purpose of Table 3 is to display in a tabular format evidence which indicates the unavailability of specialized programs such as business statistics, quantitative methods, economics, marketing, finance, etc., to Air Force officers participating in on-base graduate education. Obviously, further investigation into this matter is required to ascertain if the offering of such specialized programs is solely the prerogative of or in some instances restricted to the

in-residence graduate program of the parent institution. Unfortunately, such an investigation would exceed the limits of this research effort.

Master's Degrees Awarded Classified
by Postsecondary Institution

Having identified the limited offerings available in the business administration/management academic specialties through on-base graduate programs, this study will now focus on presenting information reflecting the extent of participation by postsecondary institutions in this type of off-campus nontraditional graduate education. Table 4 contains a comprehensive list of institutions which have granted business administration/management master's degrees to officers through on-base graduate programs. Having analyzed the statistics contained in Table 4, a few observations are worth noting.

During the 1976-1979 period a total of seventy-one postsecondary institutions sponsored graduate education programs on Air Force bases in the business administration/management study area. Of the seventy-one institutions, during any one year an average of fifty-three institutions were engaged in such on-base programs. Only thirty-seven institutions (52%), however, awarded master's degrees during each of the four years. Such observations lend support to the notion that for a significant portion of the postsecondary

TABLE 4
MASTER'S DEGREES AWARDED CLASSIFIED
BY POSTSECONDARY INSTITUTION

<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Abilene Christian U.	4	4	10	22
Alaska, U. of	7	4	6	3
American U.	1	1	1	
Angelo State U.	1			1
Arkansas State U.		1		
* Arkansas, U. of	65	47	58	23
Auburn U.-Montgomery	13	18	22	28
Ball State U.	8	7	2	12
California State U.-Dominguez Hills	6	8	10	12
California State U.-Sacramento			1	1
* Central Michigan U.	359	352	271	219
* Central Missouri State U.	28	30	31	18
Chapman College	12	13	18	8
Colorado, U. of		5		4
Creighton U.	1	1	1	
East Texas State U.		1		
Eastern Illinois U.			1	
Eastern New Mexico U.	3	6	4	3

TABLE 4--Continued

<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Eastern Washington State U.	1	4		
Embry-Riddle Aero. U.	1		3	20
Florida Institute of Tech.	5	10	7	10
George Washington U.	19	13	8	7
Georgia College	16	24	31	12
Georgia, U. of		1		
* Golden Gate U.	89	98	100	75
* Gonzaga, U. of	27	38	30	16
Guam, U. of	3	2	2	
Hardin Simmons U.	3	4	3	2
LaVerne U.			3	6
Louisiana Tech U.	7	5	4	5
Michigan Tech U.	7	2		4
Mississippi State U.		3	1	
Montana, U. of	1	2	1	2
Nebraska, U. of-Omaha	29	25	25	9
New Hampshire College	1			
New Mexico Highlands U.	21	14	9	9
New Mexico State U.		1		
New Mexico, U. of		2	6	1
North Dakota, U. of	7	17	6	11

TABLE 4--Continued

<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Northern Arizona U.			1	
* Northern Colorado, U. of	62	50	57	39
Northern Michigan U.				1
Northwestern State U.	2			
Oklahoma City U.	14	30	7	15
Oklahoma State U.		1		
Oklahoma, U. of	1	3	4	8
Pacific Lutheran U.			1	
* Pepperdine U.	49	70	52	43
Phillips U.			1	2
Puget Sound, U. of	3	5	2	2
Rensselaer Poly. Institute		8	19	18
South Dakota State U.		1		
South Dakota, U. of		1	1	4
Southern California, U. of	1	3	1	3
* Southern Illinois U.-Edwardsville	30	47	29	8
Southern Mississippi, U. of	1	5	6	2
St. Edwards U.	4	6	1	1
St. Louis U.			1	
St. Mary's U.	1			2
Sul Ross State U.	4	2	3	

TABLE 4--Continued

<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Texas Christian U.	2	3	3	3
Texas Tech. U.	1		2	
Trinity U.	5	11	7	7
* Troy State U.	129	123	108	219
Utah State U.			2	1
* Utah, U. of	121	122	89	58
* Webster College	223	371	236	250
West Florida, U. of	5	5	3	9
Western New England College	5	36	17	12
Wichita State U.	3	2		
Wyoming, U. of	2	4	2	1
Total Degrees Awarded	1413	1672	1390	1251
Institutions Conducting On-Base Graduate Programs	51	56	56	51

institutions which initially establish graduate programs at off-campus, military locations, the commitment to such a market is of a temporal nature.

The most significant revelation provided by Table 4 is indicated by the asterisks (*) which appear next to eleven of the institutions listed. Collectively, these eleven institutions constitute only

20% of the institutions which sponsored on-base graduate education during any one year. The astonishing fact concerning the on-base graduate education market is that these eleven institutions accounted for 80.7% of the master's degrees awarded to Air Force officers in the business administration/management area of study. Because of the overwhelming share of the on-base graduate education market enjoyed by these eleven institutions, the remainder of this chapter focuses exclusively on presenting information reflecting the market impact in on-base graduate programs resulting from the off-campus endeavors of these institutions.

The Market Impact of the Eleven Most Active Postsecondary Institutions

In this section a brief market profile of the eleven most active institutions offering on-base graduate education programs in the area of business administration/management is presented. In presenting this profile, two indicators are used to reflect the extent of market involvement by these institutions. The two indicators used are (1) the number/percentage of master's degrees awarded annually per institution, and (2) the number of geographical locations in which each institution has established an on-base graduate program.

In Table 5 the annual and cumulative totals reflecting the number of master's degrees awarded by each institution are

TABLE 5

THE IMPACT OF ELEVEN POSTSECONDARY INSTITUTIONS
ON THE ON-BASE GRADUATE EDUCATION MARKET

<u>Institution</u>	<u>1976</u>		<u>1977</u>		<u>1978</u>		<u>1979</u>		<u>Cumulative</u>	
	A B		A B		A B		A B		A B	
	A--Number of Master's Degrees Awarded B--Percent of Total Degrees Awarded									
Central Michigan U.	359	25.4%	352	21.0%	271	19.5%	219	17.5%	1201	21.0%
Webster College	223	15.8	371	22.2	236	17.0	250	20.0	1080	18.9
Troy State U.	129	9.1	123	7.3	168	12.1	219	17.5	639	11.2
Utah, U. of	121	8.6	122	7.3	89	6.4	58	4.6	390	6.8
Golden Gate U.	89	6.3	98	5.9	100	7.2	75	6.0	362	6.3
Pepperdine U.	49	3.5	70	4.2	52	3.7	43	3.4	214	3.7
Northern Colorado, U. of	62	4.4	50	3.0	57	4.1	39	3.1	208	3.6
Arkansas, U. of	65	4.6	47	2.8	58	4.2	23	1.8	193	3.4
Southern Illinois U. - Edwardsville	30	2.1	47	2.8	29	2.1	8	0.7	114	2.0
Gonzaga U.	27	1.9	38	2.3	30	2.1	16	1.3	111	1.9
Central Missouri State U.	28	2.0	30	1.8	31	2.2	18	1.5	107	1.9
Subtotal	1182	83.7%	1348	80.6%	1121	80.6%	968	77.4%	4619	80.7%

TABLE 5--Continued

	<u>1976</u>		<u>1977</u>		<u>1978</u>		<u>1979</u>		<u>Cumulative</u>	
	A	B	A	B	A	B	A	B	A	B
Subtotal	1182	83.7%	1348	80.6%	1121	80.6%	968	77.4%	4619	80.7%
* Other Institutions	231	16.3	324	19.4	269	19.4	283	22.6	1107	19.3
Total	1413	100 %	1672	100 %	1390	100 %	1251	100 %	5726	100 %
* Number of "Other Institutions" Awarding Master's Degrees										
	1976 - 40		1977 - 45		1978 - 45		1979 - 40			

presented. In examining the statistics contained in this table, a number of observations warrant discussion. Though the eleven post-secondary institutions listed in Table 5 comprise only 20.6% of the institutions which sponsored on-base graduate education programs during the 1976-1979 period, these same eleven institutions accounted for 80.7% of the master's degrees awarded through this means of off-campus, nontraditional education.

In Addition, Table 5 reveals that ten of the eleven institutions listed have shown either a moderate decrease or remained relatively stable in the number of degrees awarded per year through on-base graduate education programs. The one exception is Troy State University which displayed an aggressive growth rate in the on-base education market during the four year window period used in this study.

Contrasting the rapid growth of Troy State University, statistics for the University of Utah indicate a marked decline in their share of the on-base graduate education market. This continued decline in their market share culminated with an announcement in January 1980 that the University of Utah had decided to terminate all off-campus education programs with the military services. A quote from Stephen K. Bailey's book summarizes the reasons for this decision.

The University of Utah has come to the conclusion that they cannot mount quality programs to meet on-base military needs without placing unconscionable extra demands on their faculty and administrative staffs. They are therefore totally disestablishing their educational services to the military [5:31].

It remains to be seen if any of the other remaining ten institutions elect to follow the precedence established by the University of Utah. Trends within the next few years will signal if the decrease in the number of master's degrees awarded annually by such institutions as the University of Arkansas, Central Michigan University, or Southern Illinois University-Edwardsville is the result of deliberate policy decisions by the parent institutions to intentionally limit their share of the graduate education market on Air Force bases; or if the current downward trend in the number of degrees awarded is attributed merely to short-term fluctuations as institutions jockey for a portion of this lucrative market.

Using the number of master's degrees awarded annually as a standard of measurement, Table 5 is useful in providing information reflecting trends in the market share of the eleven institutions having the greatest participation in on-base graduate education. However, another measurement which is probably more indicative of each institution's long-term objectives relating to market growth in the on-base education arena is reflected in Table 6. In this table the number of locations having on-base graduate programs sponsored by

TABLE 6

A PROFILE OF THE GROWTH/REDUCTION IN THE
NUMBER OF LOCATIONS OFFERING ON-BASE
GRADUATE EDUCATION PROGRAMS
(39:1-1 to 13-1; 40:1-1 to 10-18)

By Institution:

<u>Institution</u>	<u>1976-1977</u>			<u>1978-1979</u>		
	<u>MAJCOM</u>	<u>No. of</u> <u>Bases</u>		<u>MAJCOM</u>	<u>No. of</u> <u>Bases</u>	
Arkansas, U. of	MAC	-	1	MAC	-	1
	SAC	-	1	SAC	-	1
			<u>2</u>			<u>2</u>
Central Michigan U.	AFLC	-	1	AFLC	-	1
	MAC	-	6	MAC	-	4
	SAC	-	1			
				PACAF	-	1
	TAC	-	<u>1</u>	TAC	-	<u>1</u>
			9			7
Central Missouri State U.	SAC	-	1	SAC	-	2
Golden Gate U.	AFLC	-	1	AFLC	-	1
	AFSC	-	1	AFSC	-	1
	ATC	-	1	ATC	-	1
	MAC	-	1	MAC	-	2
	SAC	-	3	SAC	-	4
	TAC	-	<u>5</u>	TAC	-	<u>5</u>
			12			14
Gonzaga U.	SAC	-	1	SAC	-	1
Northern Colorado, U. of	ADCOM	-	1			
	AFLC	-	1	AFLC	-	1
	ATC	-	3	ATC	-	3
	SAC	-	2	SAC	-	3

TABLE 6--Continued

<u>Institution</u>	<u>1976-1977</u>			<u>1978-1979</u>		
	<u>MAJCOM</u>	No. of <u>Bases</u>		<u>MAJCOM</u>	No. of <u>Bases</u>	
Northern Colorado, U. of (continued)	TAC	-	5	TAC	-	7
	USAFA	-	1	USAFA	-	1
			<u>13</u>			<u>15</u>
Pepperdine U.	TAC	-	5	TAC	-	4
Southern Illinois U.- Edwardsville	MAC	-	9	MAC	-	5
Troy State U.	ADCOM	-	1	AFSC	-	1
	ATC(AU)	-	1	ATC	-	1
	MAC	-	1	MAC	-	1
	TAC	-	2	TAC	-	2
	USAFE	-	<u>20</u>	USAFE	-	<u>22</u>
			25			27
Utah, U. of	AFLC	-	2	AFLC	-	1
	MAC	-	3	MAC	-	1
	TAC	-	5			
	USAFE	-	<u>4</u>			<u>2</u>
			14			
Webster College	ADCOM	-	1	AFSC	-	1
	AFSC	-	1			
	ATC	-	1			
	MAC	-	5	MAC	-	6
	SAC	-	1	SAC	-	2
	TAC	-	<u>2</u>	TAC	-	<u>3</u>
			11			12

TABLE 6--ContinuedBy MAJCOM:

<u>MAJCOM</u>	<u>Institution</u>	<u>1976-1977</u>	<u>1978-1979</u>
		<u>No. of Bases</u>	<u>No. of Bases</u>
ADCOM	Northern Colorado, U. of	1	
	Troy State U.	1	
	Webster College	1	
		<u>3</u>	
AFLC	Central Michigan U.	1	1
	Golden Gate U.	1	1
	Northern Colorado, U. of	1	1
	Utah, U. of	2	1
		<u>5</u>	<u>4</u>
AFSC	Golden Gate U.	1	1
	Troy State U.		1
	Webster College	1	1
		<u>2</u>	<u>3</u>
ATC	Golden Gate U.	1	1
	Northern Colorado, U. of	3	3
	Troy State U.	1 (AU)	1
	Webster College	1	
		<u>6</u>	<u>5</u>
MAC	Arkansas, U. of	1	1
	Central Michigan U.	6	4
	Golden Gate U.	1	2
	Southern Illinois U. - Edwardsville	9	5
	Troy State	1	1
	Utah, U. of	3	1
	Webster College	5	6
		<u>26</u>	<u>20</u>

TABLE 6--Continued

<u>MAJCOM</u>	<u>Institution</u>	<u>1976-1977</u>	<u>1978-1979</u>
		<u>No. of Bases</u>	<u>No. of Bases</u>
PACAF	Central Michigan U.		1
SAC	Arkansas, U. of	1	1
	Central Michigan U.	1	
	Central Missouri State U.	1	2
	Golden Gate U.	3	4
	Gonzaga U.	1	1
	Northern Colorado, U. of	2	3
	Webster College	1	2
		<u>10</u>	<u>13</u>
TAC	Central Michigan U.	1	1
	Golden Gate U.	5	5
	Northern Colorado, U. of	5	7
	Pepperdine U.	5	4
	Troy State U.	2	2
	Utah, U. of	5	
	Webster College	2	3
		<u>25</u>	<u>22</u>
USAFA	Northern Colorado, U. of	1	1
USAFE	Troy State U.	20	22
	Utah, U. of	4	
		<u>24</u>	<u>22</u>

each of the eleven institutions is presented. This information is displayed in two manners; by institution and by major air command (MAJCOM). Based on information contained in Table 6, a few observations deserve elaboration.

Collectively, the eleven institutions have maintained their relative position in the number of on-base graduate programs which they sponsor. During the 1976-1979 period nine of the eleven institutions either maintained graduate programs at the same number of locations or expanded/reduced their on-base programs by two or less locations. The two notable exceptions, Southern Illinois University-Edwardsville and the University of Utah showed significant reductions in the number of on-base programs sponsored. Southern Illinois University reduced their on-base graduate programs from nine to five locations during the 1976-1979 period. The University of Utah drastically reduced their on-base programs from fourteen locations during 1976-1977 to just two locations prior to their final decision to terminate all off-campus education programs with the military services.

It is also interesting to note that as of 1979 five of the eleven most active institutions, i.e. Central Michigan University, Golden Gate University, University of Northern Colorado, Troy State University, and Webster College, sponsored on-base graduate programs in four or more MAJCOMS. Even though these five

institutions established multi-base graduate programs which cut across a number of different MAJCOMS, each of these institutions concentrated the bulk of their off-campus graduate programs with one or two particular commands. The following list identifies the MAJCOM(s) having the majority of on-base graduate programs sponsored by each institution.

<u>Institution</u>	<u>MAJCOM</u>
Central Michigan University	MAC
Golden Gate University	TAC and SAC
University of Northern Colorado	TAC
Troy State University	USAFE
Webster College	MAC

As Table 6 indicates, concentration of on-base graduate programs within a particular MAJCOM is most evident in the current relationship between Troy State University and USAFE. With the University of Utah having terminated all of their on-base education programs, Troy State University currently has negligible competition from other postsecondary institutions which sponsor business administration/management programs in this overseas theater. It must be emphasized that such a relationship is not necessarily undesirable. This particular relationship is highlighted merely to illustrate one kind of market strategy employed by a few of the most active postsecondary institutions currently participating in on-base graduate education.

Contrasting the few institutions which employ a multi-basing strategy designed to capture a significant share of the on-base graduate education market, institutions such as the University of Arkansas, Central Missouri State University, and Gonzaga University are much more selective in their sponsorship of such off-campus endeavors. The market strategy employed by these three institutions is designed to limit their sponsorship of off-campus graduate programs on Air Force installations to bases which are located in the same accrediting region as the parent institution. Thus such a market strategy is not characterized by a multi-basing philosophy, but instead is predicated on the close proximity of Air Force installations to the parent institution.

In this chapter a descriptive analysis of the eleven post-secondary institutions having the greatest participation in on-base graduate programs in the area of business administration/management was conducted. This analysis focused on the number of master's degrees awarded annually by each institution and the number of bases that offer a graduate program sponsored by one of these eleven institutions. Having identified the institutions which participate in off-campus, nontraditional graduate education programs on Air Force installations, the first research question has been answered.

Emphasis now shifts to answering the second research question. To answer this question entailed a comparison of the

quality assurance requirements of off-campus master's degree programs to the requirements of similar degree programs offered in-residence by the parent, sponsoring institution. In Chapter IV the results of this comparative analysis for the eleven most active institutions are presented.

CHAPTER IV

A COMPARISON OF QUALITY ASSURANCE REQUIREMENTS OF OFF-CAMPUS AND IN-RESIDENT GRADUATE PROGRAMS

Introduction

Over the years it has been generally assumed that regionally accredited postsecondary institutions were offering quality graduate programs on Air Force bases. Recently, however, some educators, including those from the regional accrediting commissions, have expressed concern about the quality and effectiveness of these on-base programs (1:10). This concern has grown with the expansion of some programs to locations thousands of miles from the parent institution and the problems involved in evaluating such satellite programs.

How is the quality or the success of a graduate program to be determined? Quality and success are by no means the same. The success of a graduate program is frequently evaluated by the numbers of students enrolled in and completing a program. Obviously, such a program is meeting some need because people are expending time and money to participate in and gain whatever benefits are derived from it. However, graduate programs are not sound or good merely because they attract students. In addition, good programs, whether

declared good by performance or purpose, are not necessarily successful in attracting students. If a large number of people benefit from acquiring a graduate degree and if establishing the degree program proves to be a profitable venture for a number of institutions, then in a certain sense, the program is a success for both parties. That does not mean that it is either a sound or a good program. The judgement of the quality of any graduate program depends upon the criteria applied, and the criteria applied ultimately depend upon the values held.

Graduate students, however mature in age and experience, are not always capable of judging the quality of a program and may value convenience in time and place of program experiences and expeditious degree attainment more than quality (13:11). The fact remains, though, that any institution granting graduate degrees of inferior quality does an injustice to its students, misleads the public, and engenders criticism of graduate education in general by those unable to differentiate among programs.

During the literature review a number of the books, professional education journals, and research studies surveyed had as a central theme the issue of accreditation of off-campus graduate education, and specifically off-campus programs sponsored on military bases. This issue was addressed from the standpoint of what measures of quality should be applied in evaluating the overall academic

quality assurance of such degree granting programs. Though there was obvious diversity among authors as to what constitutes meaningful indicators of academic quality assurance, a number of principles and practices that contribute to high-quality master's degree programs on military bases were consistently cited (1:68; 4:8; 5:3-4). The following is a list of guidelines that were repeatedly referenced in the literature focusing on this issue.

1. Educational institutions should maintain the same standards and procedures in hiring instructional personnel off-campus as on-campus.

2. Educational institutions should develop ways of insuring frequent contact between campus-based faculty and administrators, and off-campus representatives and instructional staff.

3. The monitoring of the quality of instruction on military bases should be treated by the home campus as a special problem involving special evaluation techniques, e.g. peer visitations to classes and periodic peer review of examination questions and answers. Student assessment of faculty performance should be considered, by itself, an inadequate measure of instructional quality.

4. Base libraries should be adequate to accommodate the research requirements levied by graduate programs conducted on base.

5. Admission standards to courses purveyed on base should

be the same as on the home campus.

6. Academic credit for military experience and other non-traditional academic pursuits should be given only when measured against carefully established and widely recognized and respected academic norms.

A Comparative Analysis of Quality Assurance Requirements

Having identified six of the more frequently cited guidelines for measuring academic quality assurance of on-base programs, the remainder of this chapter focuses on a comparative analysis of quality assurance requirements for off-campus and in-resident master's degree programs of eleven postsecondary institutions. The reader should recall from Chapter III that selection of the eleven institutions for this portion of the study was based on their extent of participation in business administration/management master's degree programs on Air Force installations. Program participation was measured in terms of the number of degrees awarded annually.

To accomplish a comparative analysis of off-campus and in-resident graduate programs, three indicators of academic quality assurance were examined. The indicators were (1) minimum GPA required for program admission, (2) amount of credit granted for transfer of equivalent course work, and (3) amount of credit granted

for military/life experience. Admittedly, using just three measurements of quality assurance provides only a glimpse of each institution's overall efforts in assuring academic quality of on-base graduate programs. However, it is difficult to dispute that, in terms of these indicators, a comparison between the quality assurance requirements of an institution's off-campus and in-resident graduate programs is feasible and meaningful.

University of Arkansas

As of 1 May 1980 there were 193 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a University of Arkansas Graduate Resident Center. Such centers have been established at two Air Force bases in Arkansas. From this total population the education records of fifty officers were selected and reviewed. Data compiled from the fifty records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that to be admitted to graduate status:

A grade average of 2.50 or above for all work recorded covering the undergraduate program, or a 3.00 average or above on the last 30 hours of undergraduate credit is required

. . . If an applicant does not meet the above criteria for regular admission, admission may be gained with the approval of the department chairman concerned and the Graduate Dean . . . [29:50-51].

From the education records reviewed, data on overall undergraduate GPA were obtained. Computing each individual's GPA for the last 60 hours of undergraduate credit completed was not attempted. Based on overall undergraduate GPA the following distribution was obtained.

<u>Below 2.50</u>	<u>2.50 & Above</u>
23	27

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.48 to 2.70. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is concluded that the minimum GPA requirement for regular admission to a University of Arkansas sponsored Graduate Resident Center program is consistent with the GPA admissions requirement for in-resident programs offered at the parent campus.

Transfer of Credit. The catalog states that a student is permitted

. . . to transfer six hours of graduate credit from another recognized graduate school, provided grades are "B" or better and the subjects are acceptable to the department concerned . . . [29:52].

From the sample population, education records indicated that thirteen officers received credit for transfer of equivalent course work. However, five of the thirteen officers received more than the maximum six hours of credit authorized according to graduate school policy. The following list shows the amount of transfer credit granted to the five officers.

<u>Number Receiving Excessive Credit</u>	<u>Semester Hours Received</u>
1	9
4	12

The University of Arkansas offers a 30 semester hour master's degree program. Based on the above analysis it is interesting to note that there were instances where up to 40 percent of the degree requirements for an on-base program were satisfied by the transfer of credit from another recognized graduate school. Such a finding is not considered detrimental to on-base graduate programs, but it does reflect a significant deviation from the stated guidelines for in-resident graduate programs.

Military/Life Experience. Based on the sample population there were no instances where graduate credit was awarded for military/life experience. As a result of this finding, it can be stated with a 0.95 degree of confidence that the percentage of officers in the total population receiving such credit is 0 to 7.1 percent.

Computation of the confidence interval is contained in Appendix F.

Obviously, the University of Arkansas gives negligible consideration to awarding academic credit for such a nontraditional learning process.

Central Michigan University

As of 1 May 1980 there were 1201 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Central Michigan University sponsored on-base graduate program. From this total population the education records of one hundred fifteen officers were selected and reviewed. Data compiled from these records form the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that an applicant may be granted Regular Admission

. . . provided he or she has established an acceptable record of general scholarship (normally an overall cumulative undergraduate grade point average of 2.5) . . . The University may grant Conditional Admission to a degree program to an applicant . . . who does not meet all the requirements for Regular Admission . . . [9:7].

From the education records reviewed, data on overall

undergraduate GPA were obtained. Based on overall GPA the following distribution was obtained.

Below 2.50

68

2.50 & Above

47

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.43 to 2.59. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is evident that a significant portion of officers earning a master's degree through a Central Michigan University sponsored on-base program would have been initially classified in a "conditional" admission status by the parent institution.

Transfer of Credit. The catalog states that "a maximum of 15 semester hours may be transferred in as credit toward the Master's degree . . . [9:15]."

From the sample population, education records indicated that thirty-six officers received credit for transfer of equivalent course work. However, there were no cases of the institution accepting more than 15 semester hours of transfer credit.

Based on this analysis it can be concluded that the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. Though the graduate school catalog does not state the institution's policy concerning the granting of credit for military/life experience, seventy-four of the one hundred fifteen education records reviewed contained such graduate credit. As annotated on each academic transcript, credit for this "experience" was termed "developmental experience credit" or "experiential learning credit."

The amount of credit granted ranged from two semester hours to twelve semester hours. Based on the sample population a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 55.3 percent to 72.5 percent. Computation of the confidence interval is contained in Appendix F.

Having computed a confidence interval for the proportion of officers receiving graduate credit for military/life experience, the average number of credit-hours awarded to those officers for "developmental experience" or "experiential learning" was calculated. A 0.95 confidence interval for the mean number of credit-hours awarded was 6.4 to 7.7 semester hours. See Appendix G for confidence interval computation.

Central Michigan University offers a 36 semester hour master's degree program. As a result of the above analysis it can be concluded, with a 0.95 degree of confidence, that 55.3 percent to 72.5 percent of the officers who earned a master's degree through a

Central Michigan University sponsored on-base program received graduate credit for military/life experience. In addition, the data indicate that, with a 0.95 degree of confidence, the amount of "experience" credit received was 6.4 to 7.7 semester hours.

In the author's opinion both of these figures are disturbing for they reflect the results of an extremely liberal policy in the recognition of graduate credit for military/life experience. With such a liberal policy, the character of the institution's on-base graduate programs could be compromised. The character could change from that of a school to an inappropriate role as an academic clearinghouse that evaluates the fragmented educational experiences imparted by others.

During the 1976-1979 period Central Michigan University had the largest share (21.0%) of the on-base graduate education market in business administration/management. Based on the above findings concerning the institution's policy on granting credit for military/life experience, the allegation that a portion of this market share may be attributed to this liberal policy has merit.

Central Missouri State University

As of 1 May 1980 there were 107 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Central

Missouri State University sponsored on-base graduate program. From this total population the education records of fifty officers were selected and reviewed. Data compiled from the fifty records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that to be admitted to graduate status ". . . a student must have a minimum grade-point average of 2.0 . . . [10:147]." Grade average is based on a 4.0 scale.

From the education records reviewed, data on overall undergraduate GPA were obtained. There was just one exception where an officer had a GPA of less than 2.0. Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.45 to 2.67. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is evident that the minimum GPA requirement for admission to the institution's on-base graduate programs is consistent with the GPA admissions requirement for in-resident programs offered at the parent campus. This consistency between on-base and in-resident GPA admissions requirements is

probably best attributed to the institution's acceptance of a relatively low GPA admission standard for both programs. In relation to other postsecondary institutions, it seems that Central Missouri State University does not place as much importance on undergraduate achievement, in terms of grade-point average, when considering prospective students for their graduate programs.

Transfer of Credit. The catalog states that:

Upon approval a student may transfer from another institution a maximum of eight semester hours of graduate credit . . . Credit earned elsewhere with a grade lower than "C" will not be accepted for transfer [10:17].

From the sample population, education records indicated that *fifteen officers* received credit for transfer of equivalent course work. However, six of these officers were granted nine semester hours of graduate credit. Though this deviation is minor, it supports the conclusion that the maximum amount of transfer credit accepted is not an upper bound that is strictly enforced.

Military/Life Experience. Based on the sample population there were no instances where graduate credit was awarded for military/life experience. As a result of this finding, it can be stated with a 0.95 degree of confidence that the percentage of officers in the total population receiving such credit is 0 to 7.1 percent. Computation of the confidence interval is contained in Appendix F.

Obviously, Central Missouri State University gives negligible consideration to awarding academic credit for such a nontraditional learning process.

Golden Gate University

As of 1 May 1980 there were 362 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Golden Gate University sponsored on-base graduate program. From this total population the education records of seventy-five officers were selected and reviewed. Data compiled from the seventy-five records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that to be admitted to a master's degree program, "an applicant must have a grade average of 2.5 or better . . . Conditional admission may be granted to an applicant whose average is 2.0 to 2.49 . . . [15:18]."

From the education records reviewed, data on overall undergraduate GPA were obtained. Based on these data, the following distribution was obtained.

Below 2.50

41

2.50 & Above

34

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.40 to 2.59. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is concluded that in most instances officers earning a master's degree through a Golden Gate University sponsored on-base graduate program satisfied the minimum GPA requirement for unconditional admission.

Transfer of Credit. The catalog states that, "a student who at another institution has completed graduate courses to which only graduate students were admitted may transfer up to 12 units of graduate credit . . . [15:19]."

From the sample population, education records indicated that twenty-eight officers received credit for transfer of equivalent course work. In only one case, though, did an officer receive more than twelve units of graduate credit. This one exception was fifteen units.

Based on this analysis it can be concluded that the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. Though the graduate school

catalog does not state the institution's policy concerning the granting of credit for military/life experience, six of the seventy-five education records reviewed contained such graduate credit. In every case the amount of credit granted for this "experience" was three units.

As annotated on each academic transcript, credit for military/life experience was granted for completion of Air Command and Staff College and in one instance for completion of the Army Logistics Management School.

Based on the sample population, a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 3.7 percent to 16.4 percent. Computation of the confidence interval is contained in Appendix F.

Based on the above analysis it can be concluded, with a 0.95 degree of confidence, that 3.7 percent to 16.4 percent of the officers who earned a master's degree through a Golden Gate University sponsored on-base program received three units of graduate credit for military/life experience. Due to these minimal figures, both in terms of the percentage of officers receiving "experience" credit and the amount of credit granted, and the similarity in course content, the granting of military/life experience credit in these six cases seems logical and highly justified.

Gonzaga University

As of 1 May 1980 there were 111 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Gonzaga University sponsored on-base graduate program. From this total population the education records of fifty officers were selected and reviewed. Data compiled from the fifty records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that to be admitted to a master's degree program, "applicants are expected to have maintained a "B" average in their upper division work or to supply other evidence of ability to pursue graduate level work [16:158]."

From the education records reviewed, data on overall GPA for undergraduate study were obtained. Computing each individual's GPA based on upper division work was not attempted. Based on overall undergraduate GPA the following distribution was obtained.

<u>Below 2.50</u>	<u>2.50-2.99</u>	<u>3.00 & Above</u>
25	15	10

Based on the sample population a 0.95 confidence interval for the

mean GPA of the total population was 2.42 to 2.69. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is evident that satisfying the institution's GPA requirement is not an essential prerequisite for admission to an on-base graduate program.

Transfer of Credit. The catalog states that students accepted into a graduate degree program ". . . may normally, with the approval of the graduate advisor of the program, apply a maximum of 12 previously earned postgraduate credits toward a degree [16:158]."

From the sample population, education records indicated that five officers received credit for transfer of equivalent course work. In every case the amount of transfer credit granted was less than the maximum amount permitted by graduate school policy.

As a result of this analysis it can be concluded that the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. The catalog states that "some credit is allowed for educational experiences in the armed forces [16:36]." In accordance with this policy, seven of the fifty education records reviewed contained such "experience" credit. In every case the amount of credit granted was three semester hours.

As annotated on each academic transcript, credit for

military/life experience was granted for completion of Air Command and Staff College and in one instance for completion of Air War College.

Based on the sample population, a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 7.0 percent to 26.2 percent. Computation of the confidence interval is contained in Appendix F.

From the above analysis, it can be concluded, with a 0.95 degree of confidence, that 7.0 percent to 26.2 percent of the officers who earned a master's degree through a Gonzaga University sponsored on-base program received three semester hours of graduate credit for military/life experience. Due to these minimal figures, both in terms of the percentage of officers receiving "experience" credit and the amount of credit granted, and the similarity in course content, the granting of military/life experience credit in these seven cases seems logical and highly justified. In addition, the granting of such credit is totally in concert with the institution's expressed policy on this matter.

University of Northern Colorado

As of 1 May 1980 there were 208 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a University

of Northern Colorado sponsored on-base graduate program. From this total population the education records of fifty officers were selected and reviewed. Data compiled from the fifty records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that to be admitted to a master's degree program:

A grade average of 2.70 on the most recent 100 quarter hours of A, B, C, D, F grades is required. Applicants having a grade average between 2.50 and 2.69 may be admitted by the Dean of the Graduate School on departmental recommendation . . . [30:11].

From the education records reviewed, data on overall GPA for undergraduate study were obtained. Computing each individual's GPA for the most recent 100 quarter hours completed was not attempted. Based on overall undergraduate GPA the following distribution was obtained.

<u>Below 2.50</u>	<u>2.50-2.69</u>	<u>2.70 & Above</u>
28	7	15

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.43 to 2.60. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is evident that satisfying the institution's GPA requirement is not an essential prerequisite for admission to an on-base graduate program.

Transfer of Credit. The catalog states that ". . . a maximum of eight quarter hours of graduate credit in which grades of A or B are recorded may be transferred . . . [30:11]."

From the sample population, education records indicated that fifteen officers received credit for transfer of equivalent course work. However, seven of the fifteen officers received more than the maximum eight quarter hours authorized according to graduate school policy. The following list shows the amount of transfer credit granted to the seven officers.

<u>Number Receiving Excessive Credit</u>	<u>Quarter Hours Received</u>
3	9
1	10
2	12
1	13

From this analysis it can be concluded that the maximum amount of transfer credit accepted is not an upper bound that is strictly enforced.

Military/Life Experience. Though the graduate school catalog does not state the institution's policy concerning the granting of

credit for military/life experience, ten of the fifty education records reviewed contained graduate credit for what was termed "developmental classroom experience." This credit was listed in the "special entries" block of the academic transcript. Based on the sample population, a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 11.2 percent to 33.0 percent. Computation of the confidence interval is contained in Appendix F.

Having computed a confidence interval for the proportion of officers receiving graduate credit for military/life experience, the average number of credit-hours awarded to those officers for "developmental classroom experience" was calculated. A 0.95 confidence interval for the mean number of credit-hours awarded was 3.6 to 6.2 quarter hours. See Appendix G for confidence interval computation.

The University of Northern Colorado offers a 45 quarter hour on-base master's degree program. Based on the above analysis it can be concluded, with a 0.95 degree of confidence, that 11.2 percent to 33.0 percent of the officers who earned a master's degree through a University of Northern Colorado sponsored on-base program received graduate credit for military/life experience. Also it can be stated, with a 0.95 degree of confidence, that the amount of "experience" credit received was 3.6 to 6.2 quarter hours.

Though these figures are not overly disturbing, they

definitely provide evidence that the University of Northern Colorado recognizes "education" obtained outside the context of traditional graduate study.

Pepperdine University

As of 1 May 1980 there were 214 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Pepperdine University sponsored on-base graduate program. From this total population the education records of fifty officers were selected and reviewed. Data compiled from the fifty records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states:

Students may be admitted to Regular Status to work toward the master's degree if they have maintained a 3.0 (B) average or better in the field of their undergraduate major, or a 2.5 overall undergraduate academic average in an accredited institution. . . . A limited number of students whose academic backgrounds do not meet the academic standards required to be eligible for Regular Status, but give evidence of ability to pursue graduate work in a particular field, may be admitted to Provisional Status [23:27].

From the education records reviewed, data on overall GPA for undergraduate study were obtained. Computing each individual's

GPA based on the courses comprising their undergraduate major was not attempted. Based on overall GPA the following distribution was obtained.

<u>Below 2.50</u>	<u>2.50-2.99</u>	<u>3.00 & Above</u>
29	16	5

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.37 to 2.60. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is evident that the majority of officers earning a master's degree through a Pepperdine University sponsored on-base program would have been initially classified in a "provisional" admission status by the parent institution.

Transfer of Credit. The catalog states that:

. . . 6 to 10 units of graduate work from other accredited universities and colleges may be acceptable toward degree programs within these limits: . . . 8 units in all programs requiring 32 through 35 units [23:46].

From the sample population, education records indicated that nine officers received credit for transfer of equivalent course work. However, three of the nine officers received more than the eight units authorized according to graduate school policy. In two of the cases an officer received nine units of transfer credit and in the other an officer received ten units.

As a result of this analysis it can be concluded that the

maximum amount of transfer credit accepted is not an upper bound that is strictly enforced.

Military/Life Experience. Though the graduate school catalog does not state the institution's policy concerning the granting of credit for military/life experience, eighteen of the fifty education records reviewed contained such graduate credit. On the academic transcripts the credit was referenced as either "career and training evaluation," "military experience," or "military schools." Based on the sample population, a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 24.1 percent to 49.9 percent. Computation of the confidence interval is contained in Appendix F.

Having computed a confidence interval for the proportion of officers receiving graduate credit for military/life experience, the average number of credit-hours awarded to those officers was calculated. A 0.95 confidence interval for the mean number of credit-hours awarded was 3.4 to 5.3 semester hours. See Appendix G for confidence interval computation.

Pepperdine University offers a 33 semester hour on-base master's degree program. Based on the above analysis it can be concluded, with a 0.95 degree of confidence, that 24.1 percent to 49.9 percent of the officers who earned a master's degree through

Pepperdine University sponsored on-base program received graduate credit for military/life experience. Also it can be stated, with a 0.95 degree of confidence, that the amount of "experience" credit received was 3.4 to 5.3 semester hours.

In the author's opinion both of these figures reflect a liberal policy in the granting of graduate credit for military/life experience. What constitutes legitimate graduate credit for such broad categories as either "career and training evaluation" or "military experience" is left wide open to the institution's subjective interpretation. Such an obvious loophole degrades any efforts by the institution in assuring that only high-quality graduate programs are sponsored on Air Force bases.

Southern Illinois University-
Edwardsville

As of 1 May 1980 there were 114 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Southern Illinois University-Edwardsville sponsored on-base graduate program. From this total population the education records of fifty officers were selected and reviewed. Data compiled from these records form the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog

was made.

GPA Requirement. The catalog states that for admission to a master's degree program:

Overall grade-point average in undergraduate work ordinarily should be at least 3.5 (A = 5.0). Applicants whose undergraduate average falls between 3.0 and 3.5 are considered individually for admission to degree programs [26:5].

For purposes of this study GPAs are expressed in terms of a 4.0 scale. Therefore 3.5 and 3.0 (A = 5.0) equates to 2.5 and 2.0 (A = 4.0) respectively (32:5-6).

From the education records reviewed, data on overall undergraduate GPA were obtained. Based on overall GPA the following distribution was obtained.

Below 2.50

25

2.50 & Above

25

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.51 to 2.75. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is concluded that in most instances officers earning a master's degree through a Southern Illinois University-Edwardsville sponsored on-base program satisfied the minimum GPA requirement for admission. It is worth noting that based on a 0.95 confidence interval, officers receiving a master's degree from this institution had the highest mean undergraduate GPA

of any of the institutions included in this study.

Transfer of Credit. The Southern Illinois University-Edwardsville on-base graduate program requires 52 quarter hours for completion. The catalog states that "a maximum of 16 hours total credit earned for work at another university . . . may be counted toward the degree [26:9]."

From the sample population, education records indicated that ten officers received credit for transfer of equivalent course work. However, there were no cases where the institution accepted more than 16 quarter hours of transfer credit.

Based on this analysis it can be concluded that the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. Based on the fifty education records comprising the sample population, there was only one case where graduate credit was awarded for military/life experience. The amount of credit awarded was four quarter hours and was granted for completion of Air Command and Staff College.

As a result of this finding, it can be stated with a 0.95 degree of confidence that the percentage of officers in the total population receiving such credit was 0.4 percent to 10.5 percent. Computation of the confidence interval is contained in Appendix F.

Based on the above analysis it can be concluded, with a 0.95 degree of confidence, that 0.4 percent to 10.5 percent of the officers who earned a master's degree through a Southern Illinois University-Edwardsville sponsored on-base program received four quarter hours of graduate credit for military/life experience. Due to these minimal figures, both in terms of the percentage of officers receiving "experience" credit and the amount of credit granted, and the similarity in course content, the granting of military/life experience credit seems logical and highly justified.

Troy State University

As of 1 May 1980 there were 639 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Troy State University sponsored on-base graduate program. From this total population the education records of one hundred officers were selected and reviewed. Data compiled from the one hundred records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. Troy State University has two categories of admission status, unconditional and conditional. To be admitted

unconditionally the catalog states that a student must have ". . . a 1.5 grade point average (A = 3.0) . . . [28:87]." A student not satisfying the requirements for unconditional admission ". . . may be conditionally admitted to the program pending satisfactory completion of the first 12 semester hours with a "B" or better average [28:87]." For purposes of this study GPAs are expressed in terms of a 4.0 scale. Therefore a 1.5 (A = 3.0) grade average equates to a 2.50 (A = 4.0) (32:5-6).

From the education records reviewed, data on overall undergraduate GPA were compiled. Based on overall GPA the following distribution was obtained.

Below 2.50

48

2.50 & Above

52

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.51 to 2.68. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is concluded that the minimum GPA requirement for unconditional admission to a Troy State University sponsored on-base graduate program is consistent with the GPA admissions requirement for in-resident programs offered at the parent campus.

Transfer of Credit. The catalog states that the master's

degree program "... allows 12 semester hours of transfer credit ... [28:10]."

From the sample population, education records indicated that twenty-seven officers received credit for transfer of equivalent course work. In only one case, though, did an officer receive more than twelve semester hours of graduate credit. This one exception was 13.2 semester hours.

As a result of this analysis it can be concluded that in general the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. The catalog states that:

Graduates of resident Air Command and Staff College, Air War College, or equivalent senior service schools will be granted 6 semester hours of credit toward the degree. Graduates of associate programs of these schools will be granted 3 semester hours of credit toward the degree [28:83].

As annotated on each academic transcript, credit for military/life experience was identified by specific military school for which the credit was awarded.

Based on the sample population, a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 11.7 percent to 26.7 percent. Computation of the confidence interval is contained in Appendix F.

Having computed a confidence interval for the proportion of

officers receiving graduate credit for military/life experience, the average number of credit-hours awarded to those officers was calculated. A 0.95 confidence interval for the mean number of credit-hours awarded was 4.1 to 7.2 semester hours. See Appendix G for confidence interval computation. It is worth noting that of the eighteen officers in the sample population who received credit for military/life experience, eight officers received greater than 6 semester hours of such credit. This is due to the fact that these officers had completed more than one professional military service school program, e.g. Air Command and Staff College and Industrial College of the Armed Forces.

Troy State University offers a 30 semester hour on-base master's degree program. Based on the above analysis it can be concluded, with a 0.95 degree of confidence, that 11.7 percent to 26.7 percent of the officers who earned a master's degree through a Troy State University sponsored on-base program received graduate credit for military/life experience. Also it can be stated, with a 0.95 degree of confidence, that the average amount of "experience" credit received was 4.1 to 7.2 semester hours. Though the granting of more than six semester hours of "experience" credit to an individual completing more than one service school is a practice which could warrant criticism, recognition of such experience seems logical and justified. In addition, the granting of such credit is totally in concert

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AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL--ETC F/G 5/9
AN EXAMINATION OF OFF-CAMPUS MASTER'S DEGREE PROGRAMS IN BUSINE--ETC(U)
SEP 80 D C JOHNSON

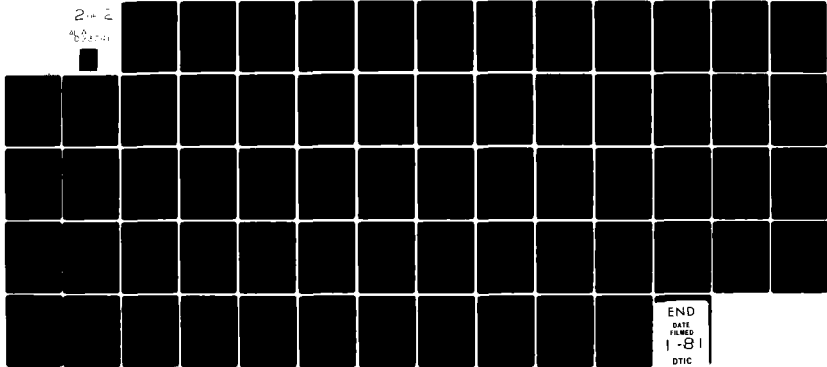
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with the institution's expressed policy on this matter.

University of Utah

As of 1 May 1980 there were 390 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a University of Utah sponsored on-base graduate program. From this total population the education records of seventy-five officers were selected and reviewed. Data compiled from the seventy-five records formed the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

GPA Requirement. The catalog states that to qualify for regular admission an applicant must have an

Undergraduate grade point average of 3.00, based on all undergraduate work or work done during the last two years of study, whichever is higher . . . Students may also be admitted on a nonmatriculated basis for a probationary period [31:43].

From the education records reviewed, data on overall undergraduate GPA was obtained. Computing each individual's GPA for the last two years of study was not attempted. Based on overall undergraduate GPA the following distribution was obtained.

<u>Below 2.50</u>	<u>2.50-2.99</u>	<u>3.00 & Above</u>
32	29	14

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.53 to 2.71. Reference Appendix E for computation of the confidence interval.

As a result of this analysis it is evident that there is a glaring discrepancy between the minimum undergraduate GPA requirement for admission to the institution's in-resident graduate program and the undergraduate GPA of officers admitted to on-base graduate programs. This discrepancy is even more apparent given that in the in-resident Graduate School of Business, ". . . the average undergraduate GPA was 3.4 . . . [31:77]" for the 1979 class of master's candidates. Though an obvious inconsistency exists between the on-base and in-resident GPA requirement for admission, it is worth noting that the University of Utah imposes the most stringent in-resident GPA admission requirement of any institution included in this study.

Transfer of Credit. The University of Utah offers a 45 quarter hour on-base graduate program. The catalog states that:

Graduate credit may be transferred from other institutions . . . A student may not count more than 12 credit hours of nonmatriculated graduate work toward any graduate degree . . . [31:40].

From the sample population, education records indicated

that twenty officers received credit for transfer of equivalent course work. However, there were no cases where the institution accepted more than twelve quarter hours of transfer credit.

As a result of this analysis it can be concluded that the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. Based on the sample population there were no instances where graduate credit was awarded for military/life experience. As a result of this finding, it can be stated with a 0.95 degree of confidence that the percentage of officers in the total population receiving such credit was 0 to 4.9 percent. Computation of the confidence interval is contained in Appendix F.

Obviously, the University of Utah gives negligible consideration to awarding academic credit for such a nontraditional learning process.

Webster College

As of 1 May 1980 there were 1080 line officers serving on active duty who had earned a master's degree in business administration/management during the 1976-1979 period through a Webster College sponsored on-base graduate program. From this total population the education records of one hundred officers were selected and reviewed. Data compiled from the one hundred records formed

the basis from which a comparison of quality assurance requirements of the institution's on-base graduate programs and the stated academic quality requirements as expressed in their graduate school catalog was made.

In relation to the other ten postsecondary institutions included in this study, the on-base graduate program sponsored by Webster College is unique in that it is the only program that awards a Masters of Arts Individualized (MAI) degree upon completion of the program. A quotation from the Webster College catalog best explains the character of their MAI program.

. . . the MAI program seeks to provide a high quality, very flexible master's degree. . . . The group to whom the MAI program appeals is broad and diverse. It is a group of men and women who seek to increase their expertise and effectiveness without the narrowing that comes from the more traditional master's degree program. . . .

In offering to the community a program which allows for individualized graduate education within a framework of great flexibility, Webster has extended its characteristic approach, to enable the individual to realize his/her potential more fully. As the society changes, people are going to have to have second and third and fourth careers. Webster College expects to be here to help them prepare themselves [44:1-2].

GPA Requirement. The catalog states:

In order to qualify for admission into the Webster College MAI program the student must have earned a baccalaureate degree from an accredited institution. . . . All initial admissions to the program are provisional. Evaluation for formal advancement to candidacy is made after the student completes 6 hours in the program [44:6].

The Webster College catalog does not specify a minimum undergraduate GPA as a prerequisite for admission to the MAI program.

Though there is no minimum undergraduate GPA required for admission to either the in-resident or on-base MAI programs, data on overall undergraduate GPA of officers in the sample population who earned a MAI degree through an on-base program were compiled. These data were obtained for comparative purposes which will be presented in the chapter summary. Based on overall undergraduate GPA the following distribution was obtained.

Below 2.50

53

2.50 & Above

47

Based on the sample population a 0.95 confidence interval for the mean GPA of the total population was 2.44 to 2.60. Reference Appendix E for computation of the confidence interval.

Though a comparison of on-base and in-resident GPA figures is not possible, a comment concerning the mean GPA computed is warranted. The confidence interval computed for the mean undergraduate GPA tends toward the lower third of the aggregate interval range when compared to other institutions included in this study.

Transfer Credit. The catalog states that "up to 12 credits of graduate courses taken at other graduate institutions may be transferred into the MAI program [44:6]."

From the sample population, education records indicated that thirty-four officers received credit for transfer of equivalent course work. In only one case, though, did an officer receive more than twelve units of graduate credit. This one exception was 14 1/3 units.

As a result of this analysis it can be concluded that generally the administration of the transfer credit policy for off-campus and in-resident programs is consistent.

Military/Life Experience. As stated in the catalog, "non-traditional transfer credits may come from such education as military schools or civilian training establishments . . . [44:6]." In accordance with this policy, fifty-four of the one hundred education records reviewed contained such credit. As annotated on each academic transcript, the amount of "experience" credit granted was specifically identified with a military school, e.g. Squadron Officer School, Air Command and Staff College, Industrial College of the Armed Forces, Defense Intelligence School, or Defense Race Relations Institute.

Based on the sample population, a 0.95 confidence interval for the percentage of officers in the total population receiving such credit was 44.3 percent to 63.4 percent. Computation of the confidence interval is contained in Appendix F.

Having computed a confidence interval for the proportion of officers receiving graduate credit for military/life experience, the average number of credit-hours awarded to those officers was calculated. A 0.95 confidence interval for the mean number of credit-hours awarded was 6.8 to 8.7 semester hours. See Appendix G for computation of the confidence interval.

Webster College offers a 30 semester hour on-base master's degree program. Based on the above analysis it can be concluded, with a 0.95 degree of confidence, that 44.3 percent to 63.4 percent of the officers who earned a master's degree through a Webster College sponsored on-base graduate program received graduate credit for military/life experience. Also it can be stated, with a 0.95 degree of confidence, that the average amount of "experience" credit received was 6.8 to 8.7 semester hours.

The granting of graduate credit for education/training received at specialized military schools is logical and appropriate. However, in the author's opinion the granting of twelve credits for completion of one military school is excessive and unwarranted. Though such an entry on a transcript was the exception rather than the rule, evidence of such a practice tarnishes the character of the institution's on-base graduate programs.

The Webster College on-base MAI program requires the completion of ten 3-credit hour courses. When approximately half of

the officers that earned a MAI degree received credit for military/life experience and the amount of credit granted, on the average, fulfilled the requirements for two-plus courses, one can only speculate if, in the long run, such a practice is a disservice to the students involved by denying them a comprehensive, in-depth graduate education.

During the 1976-1979 period Webster College had the second largest share (18.9%) of the on-base graduate education market in business administration/management. Based on the above findings, the allegation that a portion of this market share may be attributed to the institution's liberal policy on granting credit for military/life experience has merit.

Summary

The preceding discussion has focused exclusively on an examination of three indicators of academic quality assurance in order to conduct a comparative analysis of the on-base and in-resident master's degree programs of eleven postsecondary institutions. The intent of this analysis was to investigate for possible inconsistencies between established academic quality assurance policies of the parent institution and accepted practices of the institution's off-campus graduate programs conducted on Air Force installations. Having accomplished this analysis, attention now turns to a brief comparison of the on-base quality assurance requirements of the eleven institutions

included in this study.

In Figure 1 a graph depicting a 0.95 confidence interval of the mean undergraduate GPA for officers earning a master's degree from each institution is presented. By analyzing Figure 1, it is interesting to note that the interval between 2.50 and 2.60 is a range common to all eleven institutions. However, while this range comprises the upper portion of the confidence interval for five institutions, the range comprises the lower portion of the confidence interval for four institutions. For the remaining two institutions, the 2.50-2.60 range includes the mid-portion of the confidence interval computed for these institutions. Based on the characteristics of the 2.50-2.60 range, the following distribution was obtained.

Institutions Having Lower Portion of Confidence Interval in Range:

Arkansas, U. of
Southern Illinois U.-Edwardsville
Troy State U.
Utah, U. of

Institutions Having Mid-Portion of Confidence Interval in Range:

Central Missouri State U.
Gonzaga U.

Institutions Having Upper Portion of Confidence Interval in Range:

Central Michigan U.
Golden Gate U.
Northern Colorado, U. of
Pepperdine U.
Webster College

<u>Institution</u>					
Arkansas, U. of					
	2.48				2.70
Central Michigan U.	2.43			2.59	
Central Missouri State U.	2.45				2.67
	2.40			2.59	
Golden Gate U.	2.42				2.69
Gonzaga U.	2.43			2.60	
Northern Colorado, U. of					
Pepperdine U.	2.37			2.60	
Southern Illinois U.- Edwardsville			2.51		2.75
Troy State U.					
		2.51			2.68
Utah, U. of			2.53		2.71
Webster College	2.44			2.60	
	2.30	2.40	2.50	2.60	2.70
					2.80

Undergraduate GPA (4.0 Scale)

Fig. 1. 0.95 Confidence Interval of the Mean Undergraduate GPA for Officers Receiving a Master's Degree Through an On-Base Education Program.

As will be discussed later in this section, the "quality" of an institution's on-base graduate program, as measured in this study, is directly related to the portion of the 0.95 confidence interval that penetrates the 2.50-2.60 range. Institutions whose lower portion of their confidence interval was included in the 2.50-2.60 range generally had a higher quality on-base graduate program than institutions whose upper portion of their confidence interval was included in this range.

In Figure 2 a graph depicting a 0.95 confidence interval of the percentage of officers receiving credit for military/life experience is presented. What is interesting to note from this graph is the extreme disparity among institutions concerning their policy in recognizing graduate credit for such "experience."

At one end of the scale are such institutions as Central Michigan University and Webster College. The policy of these institutions is one of liberal granting of credit for military/life experience.

Opposing such a liberal policy are institutions such as the University of Utah, University of Arkansas, and Central Missouri State University. The rule of these institutions is to give negligible consideration to awarding graduate credit for such a nontraditional learning process.

In Figure 3 a 0.95 confidence interval of the mean number of credit-hours awarded to officers receiving credit for military/life experience is presented. As was true in Figure 2, Figure 3 reflects

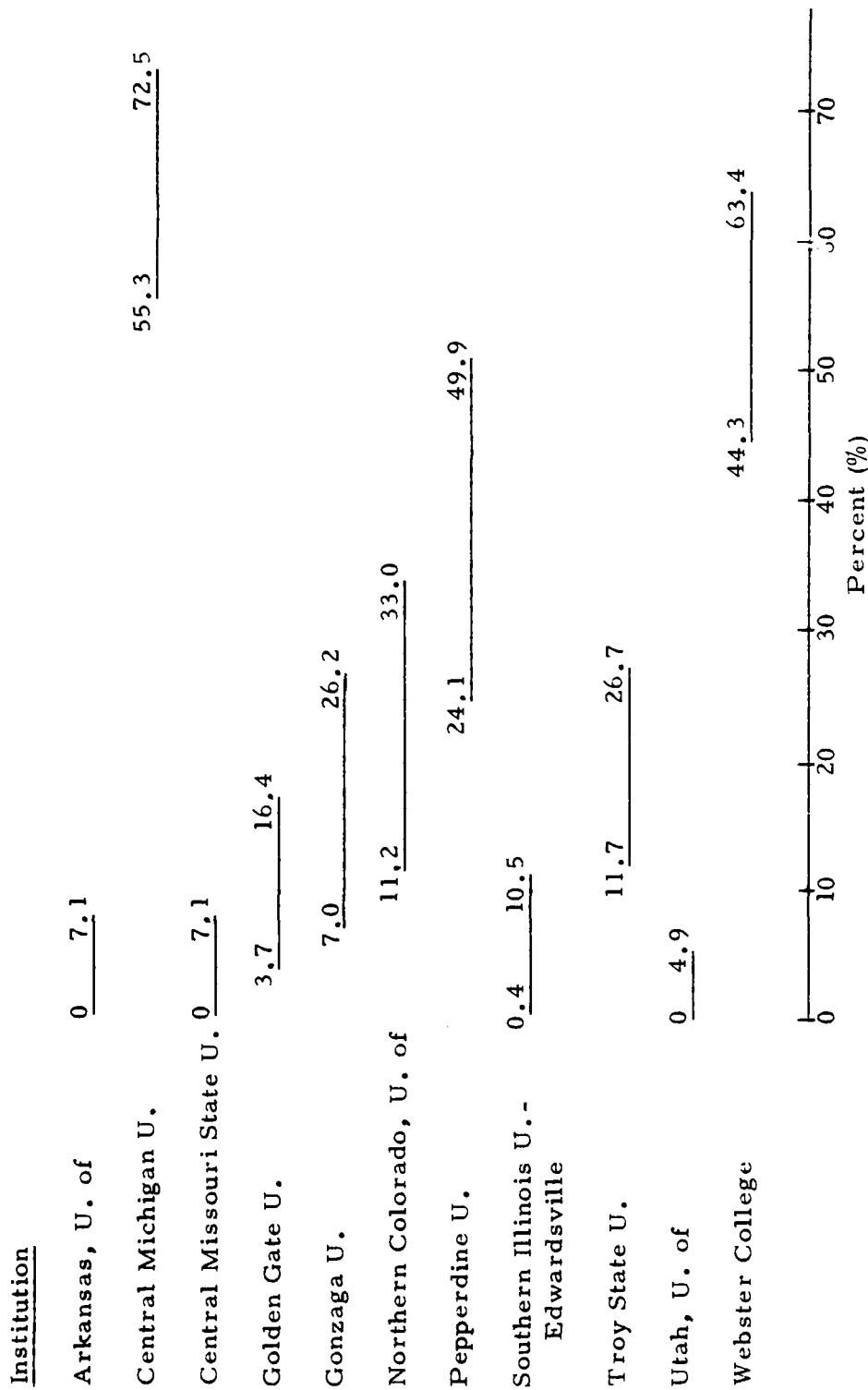


Fig. 2. 0.95 Confidence Interval of the Percentage of Officers Receiving Graduate Credit for Military/Life Experience

Institution

* Arkansas, U. of

Central Michigan U.

* Central Missouri State U.

Golden Gate U.

Gonzaga U.

Northern Colorado, U. of

Pepperdine U.

Southern Illinois U. -
Edwardsville

Troy State U.

* Utah, U. of

Webster College

6.4 7.7

3.0

3.0

2.4 4.1

3.4 5.3

2.7

4.1 7.2

6.8 8.7



Credit-Hours (Semester Hour)

* - In the sample population no credit was awarded for military/life experience. Therefore a confidence interval cannot be computed.

Fig. 3. 0.95 Confidence Interval of the Mean Number of Credit-Hours Awarded to Officers Receiving Graduate Credit for Military/Life Experience

the results of diverse views maintained by institutions concerning the amount of graduate credit justified for such experience. At one end of the scale are such institutions as Webster College and Central Michigan University which generously dispense credit for military/life experience. Counter to these institutions are the stanch advocates of a no credit policy as reflected by the University of Utah, University of Arkansas, and Central Missouri State University.

Based on the analysis presented in this rather lengthy chapter, it seems only fitting to close by presenting a rank order of the eleven institutions based on the three indicators of quality assurance analyzed. It must be emphasized, though, that the rank order was analytically arrived at based on a scoring model of the author's design. Thus as a result of extensive analysis contained in this chapter and corresponding appendices, the following rank order, from highest to lowest quality, reflects the degree of quality assurance exercised by each institution. Reference Appendix H for computation of the "quality index."

<u>Institution</u>	<u>Quality Index</u>
Utah, U. of	59
Southern Illinois U.- Edwardsville	53
Arkansas, U. of	50
Central Missouri State U.	46
Gonzaga U.	38

<u>Institution (cont)</u>	<u>Quality Index</u>
Troy State U.	36
Northern Colorado, U. of	32
Golden Gate U.	29
Webster College	27
Pepperdine U.	26
Central Michigan U.	22

As stated at the beginning of this chapter, analyzing just three measurements of academic quality assurance provides only a glimpse of each institution's overall efforts in assuring academic quality of their on-base master's degree programs. However, one cannot dispute that, in terms of these indicators, a comparison among institutions is both feasible and meaningful. Moreover, though the above ranking of institutions should not be construed as an endorsement or criticism of any of the on-base programs sponsored by the institutions listed, the decision by the University of Utah to terminate their educational services to the military appears to be an unfortunate development in the Air Force's continuing drive to assure the highest academic quality of on-base graduate education.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to examine off-campus master's degree programs in business administration/management conducted on Air Force installations. To accomplish this purpose two specific objectives were identified:

1. determine which postsecondary institutions have sponsored business administration/management graduate programs on Air Force bases, and
2. in terms of three indicators of academic quality assurance, determine if requirements of on-base master's degree programs are consistent with the requirements of similar in-resident programs of the parent, sponsoring institution.

Though an in-depth discussion of the significant findings noted from this research effort was presented in Chapters III and IV, a brief summarization of the major findings is presented.

1. During the 1976-1979 period eleven of the postsecondary institutions sponsoring on-base graduate programs in business

administration/management accounted for 80.7 percent of the master's degrees awarded. Though these eleven institutions granted an overwhelming majority of the degrees, in any one year during the 1976-1979 period they only comprised 20 percent of the total number of institutions which participated in this kind of off-campus, nontraditional education.

2. Of the eleven institutions controlling the vast majority of the on-base graduate education market, the market strategy employed by these institutions varied significantly. At one extreme was a multi-basing strategy unconstrained by geographical or MAJCOM considerations. Counter to this strategy, a few institutions limited their involvement in on-base graduate education to Air Force bases which were located in the same accrediting region as the parent institution.

3. In terms of three indicators of academic quality assurance, i.e. (1) minimum undergraduate GPA required for program admission, (2) amount of credit granted for transfer of equivalent course work, and (3) amount of credit granted for military/life experience, inconsistencies between quality requirements of an institution's in-resident graduate programs and its off-campus, on-base programs were noted with all eleven institutions analyzed. Inconsistencies ranged from minor deviations for in-resident graduate school policy to obvious indications of double standards for off-campus

and in-resident graduate programs.

4. Through a brief comparison of the on-base quality assurance practices of eleven institutions, extreme disparity among the institutions was noted. Such disparity reflects the varying degree of quality assurance exercised by each institution in the on-base graduate education environment.

Conclusions

Officers serving in the Air Force are individuals who by their own choice have dedicated themselves to national security. As citizens in uniform they are entitled to and deserving of postsecondary educational opportunities comparable to those available to the civilian population. Such programs and courses should be of the highest quality and as varied in number of disciplines and career areas as the limitations of on-base delivery will permit.

Postsecondary institutions should be encouraged to cooperate with the Air Force in providing graduate degree programs and courses that can be delivered in an on-base setting without diminishing their quality and depth. In establishing such a relationship, institutions must recognize and appreciate the unique circumstances of the military student and, where possible, adapt traditional methods and procedures to accommodate military personnel without sacrificing the quality of content or depreciating the meaning of the degree offered.

Nontraditional or external degree programs offered on Air Force bases ought to be conducted by a limited number of post-secondary institutions which exhibit experience and stature in graduate work. When an institution with limited experience in providing graduate work offers a graduate program over the entire country, continuing doubts about program quality are inevitable. When such an institution offers graduate degrees in overseas locations, the program inevitably engenders doubts about the quality of all graduate study in the United States.

Finally, one must also wonder about the motivations of those responsible for the marketing of off-campus degree programs. Ordinarily, a private institution must raise funds beyond the payment by students in order to support its programs and remain solvent, and it is unlikely to take on any large number of break-even programs unless these have some benefits that will ultimately enhance the support of the institution. The basic motivation of institutions providing quick, subquality graduate degrees, as characterized by such practices as liberal acceptance of military/life experience or transfer credit, could be financial gain, a disdain for traditional graduate programs, or both.

A wholesale indictment of nontraditional degree programs is neither appropriate nor accurate. Any new change in education will undoubtedly have its critics. However, while extensive guidelines and policies exist which encourage self-regulation of these programs,

a few postsecondary institutions are thought to be "spoiling the barrel." It is most disconcerting that it is some of the nontraditional educational programs serving military students that are singled out as the culprits. As debate of these issues continues to flourish, it is increasingly obvious that military officer students are being caught in a cross fire. Hopefully, they will not become a casualty.

Recommendations

As is true in most learning processes, the more one learns the more there is to be learned. Such a statement is apropos for this research effort. For as this study accomplished its stated objectives, it encountered numerous related issues which, though presently unexplored, are excellent candidates for future study. Two such issues of paramount importance in the on-base education arena are listed below.

1. A need exists to develop a reliable way to document and compare student achievement in in-resident academic programs and similar off-campus, on-base programs. A study of this nature could focus on such essential elements of an academic program as admissions, curriculum, instruction, learning resources, physical facilities, student services, and financial resources. Such a study would be valuable to postsecondary institutions, regional accrediting associations, and the Air Force in future assessments of on-base education

programs for military members.

2. A need exists to ascertain if separate criteria and standards are required for evaluating the unique nature of on-base education programs. Due to the changing nature of the military educational enterprise, the Air Force must maintain applicable criteria or standards and evaluation procedures which realistically assess the state of postsecondary education on Air Force installations.

In the author's opinion a thorough investigation of either issue would prove challenging, enlightening, and rewarding in itself.

APPENDICES

APPENDIX A
THE TEN GENERAL AREAS
OF ACADEMIC STUDY

<u>Area of Study</u>	<u>Code</u>
Inter-area Specializations	0
Administration, Management, and Military Science	1
Arts, Humanities, and Education	2
Biological and Agricultural Sciences	3
Engineering	4
Law	5
Mathematics	6
Medical Sciences	7
Physical Sciences	8
Social Sciences	9

(38:p.2-7)

APPENDIX B
LETTER OF REQUEST FOR APDS
EDUCATIONAL DATA

DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY (AFIT)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433



REPLY TO
ATTN OF:

AFIT/LSG-80S

18 April 1980

SUBJECT:

Request for APDS Educational Data

TO:

AFIT/DPW

1. Request your support in obtaining data required to conduct a comprehensive study of on-base graduate education programs. This data will provide a starting basis for a thesis research effort which ultimately will address the course content and quality assurance of such programs.

2. Because the data requested is subject to the Privacy Act of 1974, the data will be strictly controlled in accordance with the provisions of AFR 12-35, Air Force Privacy Act Program. Upon completion of the research effort the data will be disposed of in accordance with para 11.a. of AFR 12-35.

3. Request 2 copies of a listing containing the following information.

- highest academic code: P (Masters)
- academic specialty: 1A__
(per AFM 300-4)
- method of obtaining education: T,V,Y
(per AFR 35-25)
- school identifier code
- year degree awarded
- name: active duty officer personnel a/o 31 Dec 1979
- rank: O-6 and below
- SSAN
- primary AFSC

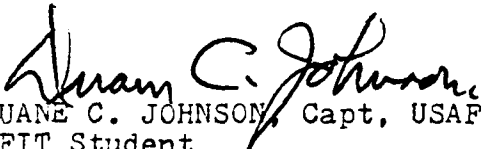
After creating a file containing the records of all officer personnel having a "P" code as their highest academic degree with an academic specialty of "1A__" and the method of obtaining the degree as either a code "T,V, or Y", please

sort the records based on the following hierarchy.

- academic specialty: 1A__ sort on the 3rd digit
- year degree awarded: most recent year to prior years, e.g. 79,78,77,...
- school identifier code
- primary AFSC: sort by the first 2 digits, e.g. 27XX, 51XX, and sequence lowest to highest
- rank: 0-6,0-5,...0-1

Reference Atch 1 for sample format. Please format the listing so that there is a break between academic specialties. Within each specialty, space between year degree awarded.

4. If you have any questions and/or require additional information, please contact me or my thesis advisor, LtCol Hendrix, at ext 54549. Your assistance is greatly appreciated.


DUANE C. JOHNSON, Capt, USAF
AFIT Student

1 Atch
Sample Format

<u>Academic Specialty</u>	<u>Year Awarded</u>	<u>School Code</u>	<u>Degree Method</u>	<u>AFSC</u>	<u>Rank</u>	<u>Name</u>	<u>SSAN</u>
1AY_	79	ABC	Y	27XX	0-6	John Doe	123-45-6789
		BCD	T	27XX	0-3	Bill Smith	234-56-7890
	78	ABC	V	26XX	0-4	Bob Jones	345-67-8901
		DEF	Y	51XX	0-2	Rich Harper	456-78-9012
1AA_	79	BCD	T	65XX	0-5	Jim Spencer	567-89-0123

APPENDIX C

DESIGN OF THE SAMPLING TECHNIQUE
USED TO SELECT OFFICER
EDUCATIONAL RECORDS

Legend: A---Number of Records Comprising the Target Population
 B---Number of Records Sampled

<u>Institution</u>	<u>1976</u>		<u>1977</u>		<u>1978</u>		<u>1979</u>		<u>Cumulative</u>	
	A	B	A	B	A	B	A	B	A	B
Central Michigan U.	359	35	352	35	271	23	219	22	1201	115
Webster College	223	20	371	30	236	25	250	25	1080	100
Troy State U.	129	20	123	20	168	25	219	35	639	100
Utah, U. of	121	25	122	25	89	15	58	10	390	75
Golden Gate U.	89	20	98	20	100	20	75	15	362	75
Pepperdine U.	49	10	70	15	52	15	43	10	214	50
Northern Colorado, U. of	62	15	50	10	57	15	39	10	208	50
Arkansas, U. of	65	15	47	10	58	15	23	10	193	50
Southern Illinois U.- Edwardsville	30	15	47	15	29	15	8	5	114	50
Gonzaga U.	27	15	38	15	30	15	16	5	111	50
Central Missouri State U.	28	10	30	15	31	15	18	10	107	50
Total	1182	200	1348	210	1121	198	968	157	4619	765

A random sampling procedure was used to select specific educational records from the target population of each institution.

APPENDIX D

MASTER'S DEGREES AWARDED BY
POSTSECONDARY INSTITUTIONS
CLASSIFIED BY ACADEMIC
SPECIALTY

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Accounting	Alaska, U. of	1			
	Auburn U.-Montgomery	1			
	Eastern New Mexico U.		1		
	Golden Gate U.	1			
	Utah, U. of	1	1		
	Webster College				2
Aviation Management	Western New England College		1	2	
	Central Missouri State U.		2	4	1
	Embry-Riddle Aero. U.	1		3	19
Business Administration	Abilene Christian U.			1	2
	Alaska, U. of	4	1	5	3
	American U.	1	1	1	
	Angelo State U.				1
	Arkansas State U.		1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Business Administration (continued)	Arkansas, U. of	3	1		
	Auburn U.-Montgomery	2	1	21	28
	Ball State U.	1	1		6
	California State U.- Dominquez Hills	3	5	10	12
	California State U.- Sacramento			1	1
	Central Michigan U.	37	15	15	19
	Central Missouri State U.	1			1
	Chapman College	5	10	18	8
	Colorado, U. of		3		3
	Creighton U.	1	1	1	
	East Texas State U.		1		
	Eastern Illinois U.			1	
	Eastern New Mexico U.	1		2	1
	Eastern Washington State U.		1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Business Administration (continued)	Embry-Riddle Aero. U.				1
	Florida Institute of Tech.	4	5	4	6
	George Washington U.	7	3	1	2
	Georgia College	2	7	4	3
	Golden Gate U.	32	19	31	23
	Gonzaga U.				1
	Guam, U. of	2	1	2	
	Hardin Simmons U.			1	1
	LaVerne U.			2	
	Louisiana Tech. U.	2	5	3	3
	Michigan Tech. U.	4	1		4
	Mississippi State U.		2	1	
	Montana, U. of	1	1	1	2
	Nebraska, U. of-Omaha	9	4	6	2
	New Hampshire College	1			

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Business Administration (continued)	New Mexico Highland U.	16	10	9	9
	New Mexico State U.		1		
	New Mexico, U. of		1		
	North Dakota, U. of		1	5	8
	Northern Colorado, U. of	38	23	51	32
	Northwestern State U.	2			
	Oklahoma City U.	6	7	3	10
	Oklahoma State U.		1		
	Oklahoma, U. of			2	4
	Pacific Lutheran U.			1	
	Pepperdine U.	11	6	1	4
	Phillips U.			1	1
	Puget Sound, U. of	2	2	2	2
	Rensselaer Poly. Institute		4	7	6
	South Dakota, U. of			1	4

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Business Administration (continued)	Southern California, U. of	1	1		
	Southern Illinois U.-Edwardsville	21	44	28	8
	Southern Mississippi, U. of		4	5	2
	St. Edwards U.	3	5		
	St. Louis U.			1	
	Sul Ross State U.	3	2	3	
	Texas Christian U.	2	1	3	2
	Texas Tech U.	1		2	
	Trinity U.	3	3	7	6
	Troy State U.	5	3	3	5
	Utah State U.			2	1
	Utah, U. of	30	29	34	24
	Webster College	27	61	45	40
	West Florida, U. of	2	5	3	9
	Western New England College	4	13	11	9

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Business Administration (continued)	Wichita State U.	3	2		
	Wyoming, U. of	1	3	2	
Business Economics	Chapman College	5	2		
	Eastern Washington State U.		1		
	Hardin Simmons U.	3			
	Pepperdine U.	1			
	Southern Illinois U.- Edwardsville	1			
	Troy State U.			1	
Business Law	Utah, U. of				1
	Webster College	1			
	North Dakota, U. of				1
Business Statistics/ Quantitative Methods	Western New England College		1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Engineering Management	Alaska, U. of		1		
	Central Michigan U.			1	
	George Washington U.	5	3	1	
	Rensselaer Poly. Institute		1	1	
	Utah, U. of	5	3	2	3
	Western New England College	1	7	2	3
Finance	Central Michigan U.	1			
	George Washington U.	1		1	
	Hardin Simmons U.		3	1	
	Oklahoma City U.	1			
	Oklahoma, U. of				1
	St. Mary's U.				1
	Utah, U. of	1			
	Webster College			1	
	Western New England College				
				1	

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Food Service/ Institutional Management	Central Michigan U.	1			
	Golden Gate U.	1			
	Trinity U.		1		
	Webster College	3	4	1	1
General Management	Abilene Christian U.	3	2	3	16
	Alaska, U. of	2	1	1	
	Angelo State U.	1			
	Arkansas, U. of	15			2
	Auburn U.-Montgomery	10	17	1	
	Ball State U.	1	4	1	4
	California State U.- Dominguez Hills	3	3		
	Central Michigan U.	208	199	147	121
	Central Missouri State U.	1			
	Chapman College	2	1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Management (continued)	Colorado, U. of		2		1
	Eastern New Mexico U.	2	5	2	2
	Eastern Washington State U.	1	2		
	Florida Institute of Tech.	1	2	1	1
	George Washington U.	4	5	1	1
	Georgia College	14	17	27	9
	Georgia, U. of		1		
	Golden Gate U.	54	79	66	49
	Guam, U. of	1	1		
	Hardin Simmons U.		1	1	1
	LaVerne U.			1	6
	Louisiana Tech. U.	4			1
	Michigan Tech U.	3	1		
	Mississippi State U.		1		
	Montana, U. of		1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Management (continued)	Nebraska, U. of -Omaha	20	21	19	7
	New Mexico Highlands U.	5	4		
	New Mexico, U. of		1	5	
	North Dakota, U. of	5	15	1	2
	Northern Arizona U.			1	
	Northern Colorado, U. of	24	25	5	6
	Northern Michigan U.				1
	Oklahoma, U. of	1	3	1	2
	Oklahoma City U.	7	23	4	5
	Pepperdine U.	11	4		1
	Phillips U.				1
	Puget Sound, U. of	1	2		
	Rensselaer Poly. Institute		3	11	12
	South Dakota State U.		1		
	South Dakota, U. of		1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Management (continued)	Southern California, U. of				1
	Southern Illinois U.-Edwardsville	7	3	1	
	Southern Mississippi, U. of	1	1	1	
	St. Edwards U.	1	1	1	1
	St. Mary's U.				1
	Sul Ross State U.	1			
	Texas Christian U.		1		1
	Trinity U.	2	7		1
	Troy State U.	113	115	133	183
	Utah, U. of	39	29	16	6
	Webster College	187	296	164	173
	West Florida, U. of	3			
	Western New England College		13	1	
	Wyoming, U. of	1	1		1

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Industrial/Production Management	Arkansas, U. of	47	46	58	21
	Central Michigan U.	35	38	19	19
	Central Missouri State U.	1			1
	George Washington U.		2	3	
	Gonzaga U.			1	
	New Mexico, U. of				1
	North Dakota, U. of	1	1		
	Utah, U. of		1		
	Webster College				1
	Ball State U.		1		
Logistics Management	Central Michigan U.	3	5	9	2
	Florida Institute of Tech.		3	2	3
	George Washington U.				2
	Webster College	1	3	20	27
	Western New England College		1		

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Marketing	North Dakota, U. of	1			
	Puget Sound, U. of		1		
Personnel Administration	Abilene Christian U.	1	2	6	4
	Ball State U.	6	1	1	2
	Central Michigan U.	74	94	80	58
	Central Missouri State U.		1		
	George Washington U.	2		1	2
	Golden Gate U.	1		2	3
	Gonzaga U.	27	38	29	15
	Louisiana Tech U.	1		1	1
	New Mexico, U. of			1	
	Northern Colorado, U. of		2	1	1
	Oklahoma, U. of			1	1
	Pepperdine U.	26	60	51	38

<u>Academic Specialty</u>	<u>Institution</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Personnel Administration (continued)	Southern Illinois U.-Edwardsville	1			
	St. Mary's U.	1			
	Texas Christian U.		1		
	Troy State U.	11	5	31	31
	Utah, U. of	44	59	37	24
	Webster College	4	6	5	6
Safety Management	Central Michigan U.		1		
	Central Missouri State U.	25	27	27	15
	Southern California, U. of		2	1	2
Systems Management	Alaska, U. of		1		
	Webster College		1		
Transportation Management	Golden Gate U.			1	
	Utah, U. of	1			

APPENDIX E

COMPUTATION OF A 0.95 CONFIDENCE INTERVAL
FOR MEAN UNDERGRADUATE GPA

In order to construct a $1-\alpha$ confidence interval (CI) for the population mean, μ , when the population variance, σ , is unknown, the following theorem is used.

If $\bar{x}$ and s are the mean and the standard deviation of a random sample of size n from a normal population N , then $(\bar{x}-\mu) \sqrt{n}/s$ has a t distribution with $n-1$ degrees of freedom [14:203].

Hence, it can be asserted with a probability of $1-\alpha$ that this random variable will assume a value between $-t_{\alpha/2, n-1}$ and $t_{\alpha/2, n-1}$, and for a given sample a $1-\alpha$ degree of confidence can be assigned to:

$$\bar{x} - t_{\alpha/2, n-1} \frac{s}{\sqrt{n}} < \mu < \bar{x} + t_{\alpha/2, n-1} \frac{s}{\sqrt{n}} \quad (1)$$

Prior to computing a 0.95 confidence interval ($\alpha = .05$), two point estimators based on the sample population must be calculated.

The two estimators are:

sample mean
$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i \quad (2)$$

sample standard deviation
(unbiased estimator)
$$s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2} \quad (3)$$

The following table lists the point and interval estimators that were computed based on the sample population.

<u>Institution</u>	<u>N</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>s</u>	<u>0.95 CI</u>
Arkansas, U. of	193	50	2.587	.401	2.476-2.699
Central Michigan U.	1201	115	2.511	.442	2.430-2.592
Central Missouri State U.	107	50	2.560	.392	2.452-2.669
Golden Gate U.	362	75	2.493	.426	2.397-2.590
Gonzaga U.	111	50	2.555	.472	2.424-2.686
Northern Colorado, U. of	208	50	2.518	.313	2.431-2.604
Pepperdine U.	214	50	2.485	.409	2.372-2.599
Southern Illinois U. - Edwardsville	114	50	2.633	.437	2.512-2.754
Troy State U.	639	100	2.598	.435	2.513-2.683
Utah, U. of	390	75	2.617	.407	2.525-2.709
Webster College	1080	100	2.521	.392	2.444-2.598

It can be asserted with a 0.95 degree of confidence that the interval contains the "true" mean undergraduate GPA for Air Force officers receiving a master's degree through an on-base education program sponsored by the above institutions.

APPENDIX F

COMPUTATION OF A 0.95 CONFIDENCE INTERVAL FOR
THE PERCENTAGE OF OFFICERS AWARDED CREDIT
FOR MILITARY/LIFE EXPERIENCE

For a large sample of size n , the binomial distribution can be approximated by a normal distribution. To compute a 0.95 confidence interval for the percentage of officers awarded credit for military/life experience out of the total population of officers receiving a master's degree through an institution's on-base education program, the following equation is used.

Let $Z = 1.96$ (standard normal deviate)

n = sample population

x = number of officers in sample population
awarded credit for military/life experience

$$\frac{x + 1/2 Z^2 \pm Z \sqrt{\frac{x(n-x)}{n} + 1/4 Z^2}}{n + Z^2} \quad (4)$$

Using the above equation, the following table shows a 0.95 confidence interval for the percentage of officers receiving military/life experience credit from each institution.

<u>Institution</u>	<u>n</u>	<u>x</u>	<u>0.95 CI</u>
Arkansas, U. of	50	0	0 - 7.1%
Central Michigan U.	115	74	55.3% - 72.5%
Central Missouri State U.	50	0	0 - 7.1%
Golden Gate U.	75	6	3.7% - 16.4%
Gonzaga U.	50	7	7.0% - 26.2%
Northern Colorado, U. of	50	10	11.2% - 33.0%
Pepperdine U.	50	18	24.1% - 49.9%
Southern Illinois U. - Edwardsville	50	1	0.4% - 10.5%
Troy State U.	100	18	11.7% - 26.7%
Utah, U. of	75	0	0 - 4.9%
Webster College	100	54	44.3% - 63.4%

APPENDIX G

COMPUTATION OF A 0.95 CONFIDENCE INTERVAL FOR
THE MEAN NUMBER OF CREDIT-HOURS AWARDED TO
OFFICERS RECEIVING CREDIT FOR
MILITARY/LIFE EXPERIENCE

Reference equations (1), (2), and (3) in Appendix E for the mathematical expressions used to compute a confidence interval for the mean number of credit-hours awarded to officers receiving military/life experience credit. In computing a 0.95 confidence interval, "n" is defined as the number of officers in the sample population awarded credit for military/life experience.

The following table lists the point and interval estimators that were computed based on the sample population.

<u>Institution</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>s</u>	<u>0.95 CI</u>
Arkansas, U. of	0	0	0	*
Central Michigan U.	74	7.04	2.72	6.42-7.66
Central Missouri State U.	0	0	0	*
Golden Gate U.	6	3.00	0	3.00
Gonzaga U.	7	3.00	0	3.00
Northern Colorado, U. of	10	3.28	1.17	2.44-4.12
Pepperdine U.	18	4.33	1.85	3.41-5.25
Southern Illinois U. - Edwardsville	1	2.70	0	2.70
Troy State U.	18	5.66	3.08	4.13-7.19
Utah, U. of	0	0	0	*
Webster College	54	7.78	3.62	6.81-8.74

*Because the sample population did not contain any records indicating credit awarded for military/life experience, a 0.95 confidence interval can not be computed.

APPENDIX H

COMPUTATION OF QUALITY INDEX BASED
ON THREE INDICATORS OF ACADEMIC
QUALITY ASSURANCE

The quality index computed for each institution was arrived at as a result of assigning values based on the institution's efforts to assure academic quality in relation to the efforts of the other ten institutions included in this study. Values assigned were 11, 10, 9, . . . , 1. A value of "11" was defined as highest quality, i.e. most desirable, while a value of "1" was defined as lowest quality, i.e. least desirable.

In computing an overall quality index, two indices for each of the three quality assurance indicators were calculated. Therefore the maximum overall quality index possible was 66 (6 X 11). The two indices for each indicator of quality assurance are computed below.

Grade-Point Average

The two indices were based on the 0.95 confidence interval for the mean undergraduate GPA for each institution. A value was assigned to each index based on the lower bound and the upper bound of the 0.95 confidence interval. The highest GPA at the lower bound was defined as most desirable and assigned a value of "11." Reference the chart at the end of the appendix where the lower bound index column intersects the University of Utah row. Similarly, the highest GPA at the upper bound of the 0.95 confidence interval was defined as most desirable and assigned a value of "11."

A "T" stands for tie and means that two or more institutions tied for the assignment of the index value. If two institutions tied for the assignment of a value, the next highest value assigned would be two-less than the tied value. For example, reference the lower bound column. Both Southern Illinois University-Edwardsville and Troy State University were assigned "10T." The next highest value assigned was an "8" to the University of Arkansas. Values were assigned to the lower and upper bound indices using this methodology.

Transfer Credit

Values were assigned to two indices based on an institution's stated transfer credit policy and the frequency of variance from their stated policy. A stringent policy was defined as most desirable while a liberal policy was defined as least desirable. Values were assigned to the variance index based on the frequency that the institution's stated transfer credit policy was exceeded. No variance from stated policy was defined as most desirable.

Central Michigan University and the University of Northern Colorado serve as excellent examples in explaining the assignment of values to these two indices. In relation to the other ten institutions, Central Michigan University had the most liberal transfer credit policy, i.e. they accepted 15 semester hours of credit. Thus a value of "1," least desirable, was assigned in the policy index column. However,

though thirty-six officers received transfer credit, in no instances were more than 15 semester hours granted. Thus a value of "11," most desirable, was assigned in the variance index column. Conversely, the University of Northern Colorado had the most stringent transfer credit policy--maximum of 5.3 semester hours of credit--but their stated policy was exceeded in seven of fifteen instances where transfer credit was granted. Therefore for their policy they received an "11" but for variance from that policy they received the lowest value, "1."

Military/Life Experience

Two indices were used for quantifying the quality assurance efforts of each institution in the area of military/life experience. Values assigned to each index were based on the 0.95 confidence interval computed for each category. One index reflected the percent of the total population of officers awarded graduate credit for such "experience." The lowest percentage of the total population receiving such credit was defined as most desirable.

The second index reflected the amount of graduate credit granted for military/life experience. The least amount of credit granted was defined as most desirable.

The following chart lists the values assigned to the indices for each institution. The "overall quality index" is based on the sum of the six quality assurance indices for each institution.

<u>Institution</u>	<u>Grade-Point Average</u>			<u>Transfer Credit</u>		<u>Military/Life Experience</u>		<u>Overall Quality Index</u>
	<u>Lower Bound Index</u>	<u>0.95 CI</u>	<u>Upper Bound Index</u>	<u>Policy Index</u>	<u>Variance Index</u>	<u>% Tot. Index</u>	<u>Amt. Index</u>	
Arkansas, U. of	8	2.48-2.70	9	10	2	10T	11T	50
Central Michigan U.	5T	2.43-2.59	2T	1	11	1	2	22
Central Missouri State U.	7	2.45-2.67	6	9T	3	10T	11T	46
Golden Gate U.	2	2.40-2.59	2T	6T	5	7	7T	29
Gonzaga U.	3	2.42-2.69	8	6T	8	6	7T	38
Northern Colorado, U.	5T	2.43-2.60	5T	11	1	5	5	32
Pepperdine U.	1	2.37-2.60	5T	9T	4	3	4	26
Southern Illinois U.- Edwardsville	10T	2.51-2.75	11	7	9	8	8	53
Troy State U.	10T	2.51-2.68	7	6T	6	4	3	36
Utah, U. of	11	2.53-2.71	10	6T	10	11	11T	59
Webster College	6	2.44-2.60	5T	6T	7	2	1	27

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