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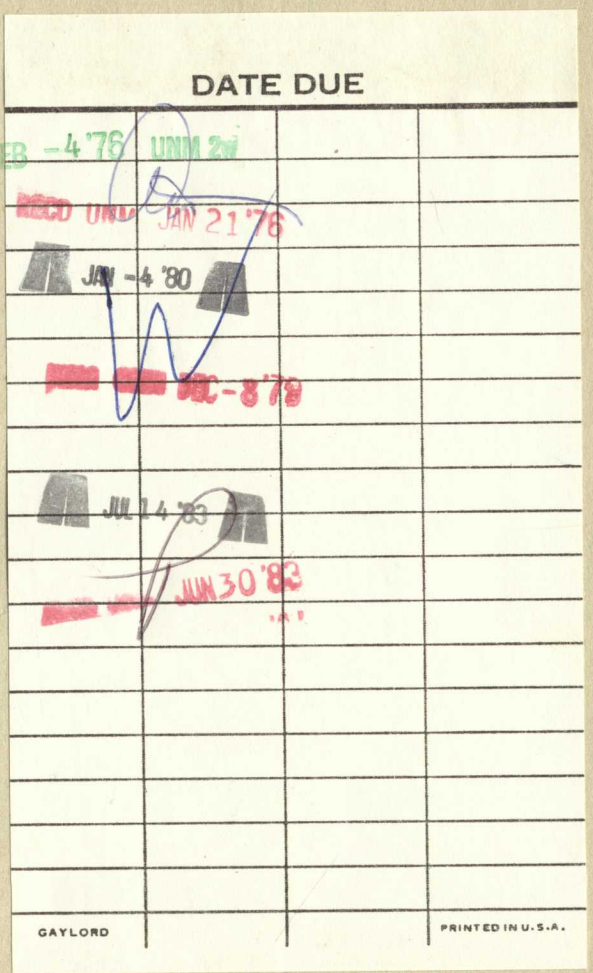
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A CURRICULUM GUIDANCE PROGRAM FOR THE CADETS IN THE AIR FORCE RESERVE OFFICER TRAINING CORPS

By

Charles Frederick Gieswein

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts in Education

University of New Mexico

1959

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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CHAPTER I

INTRODUCTION

Adjustment to college life is usually difficult for a new student. In his initial enrollment he is confronted with such problems as finding a place to live, living away from home, making new friends, attending classes scattered over a large campus, confusing or complex class schedules, new study techniques, and a relatively complex curriculum that probably will not be thoroughly understood until he is well into his sophomore year of college. An experienced faculty advisor is assigned to help him through this portentous ordeal of getting started; however, the advisor must help many other students and has limited time for each.

Eventually the student graduates and realizes too late that certain courses he failed to take might have helped him immeasurably in preparing for his life's work. He has concentrated exclusively on subjects in his major field of study with little consideration of the importance of choosing worth-while elective courses, or most of his elective courses have been chosen through a rationalizing process such as: "My friend, Joe, recommended this course," or "I need three more credit hours this semester and I heard that this is a 'snap' course."

A type of guidance, therefore, seems necessary to help the student to develop a curriculum that is "tailored" to fit the educational demands of his future occupation, his own interests, and his expected social milieu. This is especially true for those students enrolled in

the Air Force Reserve Officer Training Corps. Those students who complete the educational program of the Reserve Officer Training Corps will be commissioned as second lieutenants and will subsequently serve as Air Force officers. The limited curriculum of the Reserve Officer Training Corps, in itself, cannot offer instruction in all of the scholarly areas necessary to round out the background of the future officer who will be looked upon as a "man of the world," a highly qualified technician, and an expert in human relations. It is highly probable that his major field of study will qualify him in only one of these areas. A form of guidance in curriculum development seems necessary to provide the essential, well-balanced educational background of the future Air Force Officer.

I. THE PROBLEM

Statement of the problem. The purpose of this study is to evaluate the present college and AFROTC curricula as a means of determining how the curricula might be improved in order to attain better preparation of AFROTC cadets for service as Air Force officers. The areas selected for special consideration in this study are: (1) the degree of occupational satisfaction among graduates of the AFROTC program; (2) the socio-economic adjustment of the AFROTC graduates while serving actively in the Air Force; (3) the areas of university curriculum deficiency; and (4) the weaknesses in the AFROTC curriculum.

Delimitation of the problem. This study will be concerned only with a curriculum guidance program for the AFROTC cadets who are enrolled at the University of New Mexico. All research data will be limited to those data compiled from a follow-up study of seventy-one graduates of the AFROTC program during the academic years of 1952-53 and 1953-54, and information gained through the planned programs and records of twenty-two advanced cadets who are juniors in college.

Importance of the study. After being commissioned, a graduate of the Air Force Reserve Officer Training Corps usually serves for a period of duty that varies from two to five years. This young officer, in most cases, has had little or no experience or training in leadership, interpersonal relations, or technical specialties, other than that provided by his informally defined associations, AFROTC leadership training, and his college curriculum. He will be expected to lead enlisted men who have had far more practical experience in both the interpersonal and technical aspects of his job.

Air Force officials are aware of this problem; however, rapid expansion of the Air Force in size and specialization has left a wide gap between technical advancement and the lagging development of management. In this study an attempt is made to determine how the AFROTC guidance program at the University of New Mexico can help each student to select courses that will aid him most in preparing to become an Air Force officer.

II. DEFINITIONS OF TERMS USED

Advanced Corps. The term "advanced corps" is often used within the AFROTC program to designate those cadets, as a group, who are enrolled in the junior and senior years of college and have been selected for advanced training. Cadets in the "advanced corps" are further differentiated because each is made a party to a contract that binds the government to commission him in the Air Force Reserve after he has completed the AFROTC program. The term "advanced corps" is also used to differentiate advanced cadets from basic cadets.

AFROTC curriculum. The terms "AFROTC curriculum" and "generalized curriculum" as used in this study are synonymous. The AFROTC curriculum is the generalized curriculum developed by the Air University Command and approved by the United States Air Force Headquarters. At the University of New Mexico the AFROTC curriculum consists of twenty-four credit hours and requires four academic years for completion. Freshmen and sophomores enroll in basic AFROTC. They attend class for two hours each week and spend two hours per week on the drill field to receive two credit hours each semester. Advanced cadets are juniors and seniors in college. The advanced part of the curriculum requires four hours of class attendance along with two hours spent on the drill field each week. Advanced cadets are given four credit hours each semester for their completion of the AFROTC course of study. Basic cadets earn a total of eight credit hours and advanced cadets earn a

total of sixteen credit hours to be counted toward the graduation requirements of the university.[1]

Curriculum guidance. Guidance for AFROTC cadets in the development of their curricula will be referred to as "curriculum guidance." Curriculum guidance is concerned with keeping the student "in phase" and insuring that he is kept aware of and encouraged to enroll in courses that will provide him with a well-balanced educational background to aid his adjustment as an Air Force officer.

In phase. The term "in phase" is conveniently used in the AFROTC program to designate students who will complete all of their university graduation requirements concurrently with the AFROTC graduation and commissioning requirements.

Observer. The term "observer" is used in the Air Force to designate an officer who performs duty as either a navigator or bombardier or has a combined aeronautical rating as a navigator-bombardier.

Rated. A "rated" officer is an officer who holds an aeronautical rating of either pilot or observer and is currently qualified in his rated position. At times he may be assigned primary duty that does not require regular and frequent flights; however, he must maintain his flying proficiency through fulfilling a minimum of annual proficiency requirements.

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[1]University of New Mexico, "Air Force Reserve Officers Training Corps," The University of New Mexico Bulletin, 1957-58 Catalogue Issue (Albuquerque, New Mexico: 1957), pp. 187-188.

III. SOURCES OF THE DATA

Data for this study were obtained from a survey of the opinions and attitudes of graduates of the University of New Mexico who were commissioned through the AFROTC program and from a review of the planned curricula of the advanced AFROTC cadets who are members of the junior class.

Questionnaires were mailed to the ninety officers who had graduated in 1953 and 1954. Fifteen of the ninety were former service veterans, only two of whom served actively after completing AFROTC training; therefore, thirteen of the total were not qualified to give valid answers regarding the effect of AFROTC and college training in relation to military service. After excluding these veterans who did not return to active military service, seventy-seven are left who could possibly have given valid responses. Out of the possible seventy-seven a total of seventy-one responses were received, to make the survey, on a response basis, 92 per cent effective.

Twenty-two advanced cadets who are members of the junior class were asked to complete their projected college programs from their dates of entry into the advanced corps to their expected dates of graduation. The information received from this survey became a part of the cadet's permanent file and is called the "Advanced Cadet Progress Record." This information was supplemented by additional information gained through personal interviews with the twenty-two cadets.

IV. METHODS AND PROCEDURES

The questionnaire, designed to gain information that can help cadets in preparing themselves more adequately for service as Air Force officers, seeks information in four areas: (1) occupational satisfaction, (2) socio-economic adjustment, (3) university curriculum deficiencies, and (4) AFROTC curriculum deficiencies.

Forty-seven of the seventy-one respondents who served actively have returned to civilian status. Twenty-four are still in the Air Force; however, six of these intend to return to civilian status, and four are undecided, leaving fourteen who desire an Air Force career.

Graduates are further divided according to college major. Three main divisions are made: (1) business administration; (2) engineering; and (3) arts and sciences, to include other small colleges such as law, pharmacy, and education. This forms a manageable division, since twenty-two graduates can be placed in the business administration group, twenty-one are engineers, and twenty-eight respondents make up the arts and sciences and other colleges group. In order to make the study more nearly complete, other divisions and categorizations must be made. In some instances, flying officers are separated from non-flying officers; active officers are separated from inactive officers. In other instances, graduates are divided into those who are now or were previously assigned duties, in relation to their college majors, that were in the same field, a closely related field, a remotely related field, or a field not related in any way.

The twenty-two cadets, who were asked to program their remaining courses to be applied toward graduation, were divided into three groups similar to the divisions made within the group of graduates. Twelve of the twenty-two are in the arts and science group, two in the business administration group, and eight are in the engineering group. Special attention is given to the adequacy or deficiencies in the curricula of these undergraduates. An additional note is made of the length of time that these undergraduates anticipate will be required for graduation and in the completion of the requirements of their various colleges.

V. REVIEW OF RELATED STUDIES

Since 1947, when the Air Force became a separate and major branch of the armed forces, the AFROTC curriculum has been reviewed and revised constantly to meet the needs of this modern and growing branch of service. In January 1952, the United States Air Force Headquarters directed the Air University command to develop a generalized curriculum for the AFROTC. This curriculum development problem was studied by several committees made up of members who were prominent college and university officials, Air Force commanders, and Professors of Air Science. By June 1952, after much coordinated concentration, these committees presented their finished product, "The Air Force ROTC Generalized Curriculum," to Air Force Headquarters for its final approval. The approved curriculum was designed: (1) to be of college level in content, scope, and intensity; (2) to present courses not available in

the university curriculum; (3) to appeal to students in all academic fields of interest, including those enrolled in technical and non-technical fields; and (4) to indoctrinate and prepare students for flying training upon completion of the AFROTC program of study. Except for minor changes, the generalized curriculum remains unchanged since June 1952.[2]

In December 1953, Air Force ROTC Headquarters adopted an in-service education program designed to broaden the educational backgrounds of AFROTC instructors, enabling them to get a better conception of the relationships between their jobs and the functions of the university to which they are assigned.[3] This program was influenced greatly by the in-service education portion of a doctoral thesis written by Charles B. Todd on the improvement of instruction in the AFROTC program.[4] The program was designed to broaden the educational backgrounds of the Officers who instruct AFROTC classes, placing the level of instruction on a par with the instruction received from

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[2]Headquarters Air Force ROTC, "Curriculum Development Procedures," The Air Force ROTC Generalized Curriculum, A brochure prepared by Headquarters AFROTC (Montgomery, Alabama: 1956), pp. 9-10.

[3]Headquarters Air Force ROTC, "AFROTC In-Service Education Brochure," AFROTC In-Service Education, A brochure prepared by Headquarters AFROTC (Montgomery, Alabama: 1953), p. 1.

[4]Charles B. Todd, "The Improvement of Instruction for the Air Force Reserve Officer's Training Corps" (extracted from an unpublished doctoral thesis, Teachers College, Columbia University, New York, New York, 1953), pp. 1-34.

other departments of the university. Todd outlines various ways in which the ROTC program may be integrated into the college curriculum to enrich student background. No specific mention is made of guidance; however, Todd does stress the importance of ROTC instructors taking college courses that may help them to understand more of the nature of the student's problems.

Since the study of curriculum guidance is essentially a study of vocational guidance and occupational adjustment, it is necessary to review similar studies in other occupational areas to gain a better concept of related research activities. Arthur E. Traxler, in 1946, made such a study to determine the selection criteria for personnel going into the field of public accounting.[5] Traxler reports on a project of the American Institute of Accountants designed to attract individuals toward and guide them into public accountancy. The project includes the study of interests and aptitudes measured in the form of tests designed to predict success in the accounting field. Results of the project provided information leading to better recruiting, an improved guidance program, improved selection at the point of employment, and a basis for early identification of superior students and employees for admission to staff schools and other special purposes.

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[5]Arthur E. Traxler, "Project in the Selection of Personnel for Public Accounting," National Projects in Educational Measurement, a report on the 1946 Invitational Conference on Testing Problems. American Council on Education Studies (Washington, D.C.: 1947), pp. 51-64.

One of the earlier studies made in the field of occupational guidance is the survey of industries and mechanical occupations completed in 1915 by David Spence Hill.[6] Hill, working in conjunction with the Division of Educational Research, analyzes the New Orleans occupational situation in relation to what the city school system does and is capable of doing in the area of occupational guidance. Although this study seems only remotely related to curriculum guidance in the AFROTC program, it does show systematic procedures for preparing students according to their interests, aptitudes, and probable positions in life. Hill concludes that courses must be adapted to the needs of the various groups such as (1) boys fourteen years of age who usually go no further than the sixth grade, (2) older and more advanced boys, and (3) youths and men in industry who desire to improve their skill and knowledge or to change their occupations through evening or part-time courses.

In 1944, Harold D. Carter published the results of his ten-year review of vocational interests and job orientation.[7] For the ten-year period from 1933 to 1943, Carter conducted a survey of the major psychological studies dealing with the problems of vocational

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[6] David Spence Hill, "Survey of Industries and Mechanical Occupations in New Orleans by the Division of Educational Research," School and Society, 2:421-427, September, 1915.

[7] Harold D. Carter, Vocational Interests and Job Orientation, a Ten Year Review, American Association for Applied Psychology, Stanford University, (Palo Alto, California: Stanford University Press, 1944), pp. 1-85.

orientation. Carter's survey included a total of 262 significant studies evaluated for their contributions to vocational guidance research. Although most of his survey is concerned with the testing of interests, his work does relate to this study in the area of occupational preparation and guidance.

Carter concludes that vocational interests come from extensive and complicated development, based in part upon native aptitudes, and are affected by educational forces. He also concludes that the vocational interests of high school students are highly individual, definitely patterned, and fairly reliable and permanent.

A primary tool in occupational guidance is group-centered activity and discussion. Mississippi State College seemingly laid a cornerstone in the area of "Career Day" activities when it published, in 1949, a resume of the experiences of two job clinics held at Mississippi State College called An Experiment.[8] The term Experiment describes the two job clinics held on the campus of Mississippi State College on March 23, 1948, and December 15, 1948, to help the graduating seniors in solving a very perplexing problem--the problem of the proper procedure to follow in securing employment. As this study points out, it is difficult to determine exactly when or how the idea for the job clinic came about, and quite probable that

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[8]Mississippi State College, An Experiment, a resume of the experiences of two job clinics held at Mississippi College, sponsored by the School of Business and Industry, Business Research Station (State College, Mississippi: 1949).

no one single activity or incident was responsible for the undertaking. This particular job clinic, however, seems to be one of the earliest of its type of experimentation to be recorded. The job clinic conducted at Mississippi State College is no doubt a progenitor of the "Career Day" procedures and activities now being used in many high schools throughout the nation. In the Mississippi State College job clinic, many professional persons representing a variety of occupations were invited to discuss with the seniors the qualifications required of applicants as well as the procedures in applying for a position. It seems feasible that a similar type of job orientation could be applied to AFROTC, allowing cadets to talk directly with officers who are performing duties in the cadets' areas of interest.

An important study of the factors relating to the development of occupational preference was made by William Arthur Bradley in 1943. In his Correlates of Vocational Preferences, Bradley was concerned with determining the correlates of vocational preferences among high school and college students for the purpose of gaining information that would aid in vocational guidance.[9] In this study, Bradley compared occupation of the parent, intelligence of the individual, course of study pursued, and marks in certain required courses. His subjects included 1,500 junior and senior high school students enrolled in 1941 and 1942 within the Philadelphia area and 4,500 college students

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[9]William Arthur Bradley, Correlates of Vocational Preferences, (Provincetown, Massachusetts: The Journal Press, 1943), pp 1-169.

enrolled at Temple University from 1932 to 1942. High school students were grouped according to grades from seven to twelve. University students were grouped according to college majors. Bradley concluded that the parent is an important factor in vocational choice of the student, that students have the ability to discern among various occupations "to a limited degree," and that students with higher intelligence quotients tend to choose the "higher" vocations.

Another significant study made in the area of occupational adjustment is that of Grace Osborne Hunter in her study of 1804 cases of veterans of World War II at the Temple University Veterans Administration Guidance Center. Grace Hunter's doctoral dissertation[10] on the counseling of veterans was completed in 1948. In her study, she was concerned with the placement of veterans in the community and the community's available occupations for veterans. Her data come from the case histories of counseling interviews of these veterans, and at a time when, according to Hunter, ". . . counseling could reasonably be considered as being at its nadir." In her study Hunter is concerned with an age group much older than that of most counseling programs in the school systems. The median age of the population studied was 24.05 years, with an age range of seventeen to forty-eight. Hunter concluded that a large number of veterans entered advisement with

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[10] Grace Osborne Hunter, "A Summary of Data Relating to 1804 Cases of Veterans Counseled at the Temple University Veterans Administration Guidance Center" (a doctoral disseration, published and distributed by Temple University, Philadelphia, Pennslyvania, 1948).

a single vocational goal in mind. The occupational range of chosen objectives indicated a desire for work opportunities in the Philadelphia area. Within this age group Hunter found a need for "continuous, long-range guidance on a highly professional level."

Relatively little research has been directly concerned with the ROTC programs. The doctoral thesis of Charles B. Todd on in-service education for AFROTC instructors is discussed in an earlier part of this study. Two other research projects dealing directly with ROTC programs are worthy of mention. The first is a study by Willard L. Nash completed in 1934, in which he made a comparison of the related features of ROTC courses and physical education. The second of these research projects to be discussed is a study made by Douglas E. Scates and Dale K. Spencer on the effects of military training in the high school.

The study of Nash shows some interest in the ROTC curriculum; however, it is concerned only with a very limited aspect of the training program.[11] Nash gives an historical account of the development of the military training program in land-grant colleges. He also evaluates the stated aims and purposes of military training in these institutions. Nash surveyed the ROTC curricula of fifty-two land-grant colleges in all forty-eight states, Alaska, Hawaii, and Puerto Rico. He found that

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[11] Willard L. Nash, "A Study of the Stated Aims and Purposes of the Departments of Military Science and Tactics and Physical Education," a publication distributed by the Bureau of Publications, Teachers College, Columbia University (New York: 1934), pp. 1-129.

the stated aims and purposes of the military and physical education programs of an institution frequently overlap if they are not identical, and that this overlaping is often not realized. He concludes that the greatest educational value of military training is found in its preparation for national defense. At the time Nash completed his survey in 1934, he concluded that, outside of the advantage of preparation for national defense, there are no other aims and purposes which cannot be realized through physical education programs.

In their study of Retroactive Experiements on Effects of Military Training in High School, Douglas E. Scates and Dale K. Spencer were concerned with evaluation of the effects of military training in high school.[12] Scates and Spencer analyze certain achievements of two groups of students in New Hanover High School at Wilmington, North Carolina, one a military group and the other a non-military group. The military group consisted of seventeen students who participated in the high school ROTC program; they were compared on several factors with seventy-three students of the same age group who were not military students.

There was a noted change in attitudes toward a military career by the ROTC students, with ROTC students becoming more receptive to the prospect of military service. The military group could also be notably distinguished for their extrovert adaptation, participation

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[12] Douglas E. Scates and Dale K. Spencer, "Retroactive Experiments on Effects of Military Training in High School," School Review, 49:195-205, March, 1941.

in group activity, and conformity. Scates and Spencer concluded that military training in high school yields beneficial results even so far as non-military outcomes were concerned.

Although much research has been done in the fields of counseling and vocational guidance, a serious need is evident in the area of occupational and curriculum research for the AFROTC. Although the Air Force ROTC Headquarters and the Air University Command continually review the suitability of the AFROTC curriculum and the effectiveness of instructional and guidance methods, guidance itself must be localized. In addition to planning broad and general curricula and the study of instructional and guidance methods, the AFROTC program, if it is to be effective, must ascertain what each cadet needs to assist in his development.

VI. ORGANIZATION OF THE REMAINDER OF THIS STUDY

Chapter II of this study deals with the occupational satisfaction among the graduates of the Air Force Reserve Officer Training Corps. An investigation of the socio-economic adjustment of these graduates as Air Force officers is included in Chapter III. Chapter IV examines the college curricula as they relate to the military duties of the officers in the survey along with an evaluation of the AFROTC curriculum in relation to preparation for service as an Air Force officer. Chapter V investigates the existing situation within the AFROTC program in relation to curriculum guidance. Chapter VI, which is the final chapter, offers the findings, conclusions and recommendations of the study.

CHAPTER II

OCCUPATIONAL SATISFACTION AMONG GRADUATES OF THE AIR FORCE RESERVE OFFICER TRAINING CORPS

The Air Force Reserve Officer Training Corps, in reality, is a multi-purpose organization with many responsibilities. Its primary mission is to train reserve and regular officers for the Air Force. In addition, it assumes responsibility for helping its sponsoring college or university, as in the case of land-grant colleges, to satisfy any obligation that the institution may have to provide military training. The various committees made up of university officials, Air Force commanders, and Professors of Air Science, who drafted the AFROTC curriculum,[1] realized that not all students who enroll in the AFROTC program will be selected for the advanced program and subsequent commissioning; therefore, an obligation is assumed by the AFROTC to give these students worth-while training that will help them even though they may never become members of the Air Force or any other branch of the armed forces. Similarly, many graduates of the AFROTC program, after being commissioned as reserve officers, may serve three or less years actively and then return to their civilian occupations and way of living.

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[1] Headquarters AFROTC, The AFROTC Generalized Curriculum, loc. cit.

The AFROTC curriculum tries to help all of its students. It provides officer training for those who will serve as Air Force officers; and for those who cannot go into the advanced phases of training, it provides "Air Citizenship Training"[2] to help them, as future citizens and community leaders, in understanding some of the problems of the armed forces and the position of the United States as a world power. Even though a member of the armed forces may find his active service to be a pleasant experience, there may be many factors to influence his desire to return to civilian life. A good impression of the armed forces left with the non-career officer, along with worthwhile experience that may be transferred to his civilian occupation, can promote a feeling of good will that can help the entire nation. As much assistance as possible must be given to AFROTC cadets to help them in making necessary adjustments to the Air Force, understanding military problems, and assuming citizenship responsibility in modern society. In this study, some factors have been revealed that may help AFROTC instructors and guidance personnel to gain a better understanding of the occupational problems of college graduates entering the Air Force as newly commissioned officers.

This chapter deals with five main areas in its consideration of job satisfaction. They are: (1) the nature of assignment of newly commissioned Air Force officers, (2) a comparison of flying and non-flying officers in relation to retention of officers on active duty,

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[2]Ibid., pp. vi-vii.

(3) the assignment and retention of officers in relation to their college majors, (4) the influence of military experience on civilian occupations, and (5) the assignment of officers in relation to their occupational preferences.

I. THE NATURE OF ASSIGNMENT OF NEWLY COMMISSIONED AIR FORCE OFFICERS

Job satisfaction can be measured in several ways. Most persons can discern quickly that a certain job is or is not suited to their aptitudes or personal aspirations, or if another job is more appealing from a socio-economic point of view. A person's remaining in a job for a sustained period and showing a desire to continue his employment are other criteria for job satisfaction. An individual may also show his occupational satisfaction through career planning in the given field and through continued progress in education or training required in the field. Within the armed forces, an apparent influence of a specific duty on occupational outlook and planning may also indicate a degree of job satisfaction in that particular duty.

Achievement on the job is greatest when the individual is permitted to advance toward his desired occupational goals, regardless of whether his career intentions are military or civilian. Peripheral inconveniences and hardships are much easier to endure when the individual is happy in his work. With this in mind, the occupational experience of the AFROTC graduate, conceivably, is extremely important;

therefore, the degree of job satisfaction among the graduates of the AFROTC program must be a primary consideration.

During his senior year of college, and just prior to commissioning, each AFROTC cadet of the advanced corps is interviewed by a personnel officer or airman personnel specialist. During this interview, the cadet is given the opportunity to review and study the requirements of various Air Force specialties and the type of duties within each of these specialties. At this time, an officer's classification and assignment record is prepared for each prospective commissionee and a recommended Air Force specialty is recorded on the classification and assignment record. This recommended Air Force specialty takes into consideration the potential officer's previous training and experience, his college educational background, and his personal desires.

Even with this close attention to classification and assignment of the future officer, some mal-assignments still result from the severe shortage of personnel who are qualified in certain vital specialties, and very often exigencies of the service cause the new officer to be assigned to duties inconsistent with his own desires and his best areas of qualification. In the following sections, a distinction is made between those officers who are properly or homogeneously assigned and those who are mal-assigned in relation to college educational background.

II. A COMPARISON OF FLYING AND NON-FLYING OFFICERS IN RELATION TO RETENTION OF OFFICERS ON ACTIVE DUTY

Some of the greatest statistical differences shown in this study can be noted in comparing career desires of flying officers to non-flying officers. Elaborate statistical relationships are avoided in most parts of this study and raw, numerical relationships are shown because much of the data involves groups so small that any sophisticated expression of statistical data could be very misleading. More technical expression of statistical data is used only when such expression can make relationships more meaningful to the reader.

This survey shows that out of the seventy-one graduates who responded, those who serve as flying officers tend to find an Air Force career more attractive than those who are assigned to non-flying duty. Twenty-five of the seventy-one officers surveyed held aeronautical ratings of pilot or observer and were assigned to flying duty. Eight, or approximately one-third of these rated officers, are still on active duty and intend to continue their Air Force careers. Of the non-rated officers included in the survey, only six of the forty-six total, or around 13 per cent, decided in favor of an Air Force career. Of the fourteen officers who desire to remain in the Air Force, eight, or 61 per cent, are assigned to flying duty. Table I shows the numbers of active and inactive officers assigned to flying and non-flying duty.

TABLE I

ACTIVE AND INACTIVE,
RATED AND NON-RATED OFFICERS

Flying status	Active career	Active un-decided	Active non-career	Inactive	Total
Rated	8	2	4	11	25
Non-rated	6	2	2	36	46
Total	14	4	6	47	71

The reason for a higher retention of rated officers over non-rated officers can probably be explained partly through the difference in the pay received by flying and non-flying personnel. The pay differential for officers of this group varies from $100.00 to $150.00 more received per month by officers assigned to flying duty. Table II shows the additional pay given for hazardous duty to flying personnel according to their years of service longevity and rank for those officers included in this survey.[3] Another probable reason for a higher retention rate among flying personnel is that they possibly were initially more highly motivated toward an Air Force career than those who did not choose to fly.

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[3]Headquarters United States Air Force, Air Force Manual 173-20, Pay and Allowances for Officers and Airmen, an official publication of the Department of the Air Force (Washington, D. C.: 1955), p. 62.

TABLE II

RATES OF ADDITIONAL PAY
RECEIVED MONTHLY FOR HAZARDOUS DUTY

Officer's rank	Years of service longevity		
	Under 2 years	Over 2 years	From 3 to 4 years
First lieutenant	$115.00	$125.00	$150.00
Second lieutenant	$100.00	$105.00	$135.00

NOTE: The monthly pay rate increases with an increase in years of total service and with a progression in rank. This takes into account a recognition that experience contributes to a higher degree of effectiveness and should be rewarded in the pay system. Pay increase with longevity also provides an incentive for personnel to remain in active service.

Another difference that seems worth noting is between pilot and observer retention. Seven pilots, of a possible seventeen, chose Air Force careers compared to one of eight observers. Converted to percentages, these figures show that pilot retention for this group is 41 per cent and observer retention is only 12 per cent. Table III shows the numbers of pilots and observers included in the survey according to their career intentions.

Most young men about to enter the Air Force consider the position of pilot to be more glamorous and rewarding than the observer positions of navigator or bombardier. This statement is validated when advanced corps selection records are examined. Selection records for the past three years reveal that a total of sixty-three cadets have been selected for advanced training at the University of New M

Mexico. Forty-one of these are qualified for flying training; thirty-nine of this group are qualified for pilot training and five, who have qualified under a slightly less rigid physical examination,[4] are in the observer category. In essence, those cadets who meet the more rigid requirements for pilot selection also meet the qualification standards for observer training. In all cases, those qualifying for pilot training have chosen that category and remained in it. Only those who did not qualify for pilot training but did qualify for observer training were satisfied to remain in the observer category. In one instance, a cadet originally qualified only for observer training was later retested and found to qualify for pilot training as well. Without hesitation, he changed his category to fill an opening in the pilot quota.

TABLE III

ACTIVE AND INACTIVE PILOTS AND OBSERVERS

Aeronautical rating	Active career	Active un-decided	Active non-career	Inactive	Total rated
Pilot	7	1	2	7	17
Observer	1	1	2	4	8
Total rated	8	2	4	11	25

[4] The only difference between the qualifying physical examination for pilot and that of observer is in the vision requirement. Pilots must pass a vision test of 20-20, or better, while observers must pass a vision test with at least 20-50, correctable to 20-20.

The position of pilot continues to be more attractive after the young officer is assigned to duty because he can readily see that more command positions are available to pilots and that there is a better chance for advancement in the field of air operations for pilots than observers. According to Air Force regulation, only pilots who are currently on flying status, can hold command or certain operational staff positions in a unit or organization with a primary mission involving flying.[5] The reason behind this regulation is very logical; however, new observers and non-rated officers are quick to realize that during their careers they will be permanently excluded from holding any of these positions, and at the same time, they can easily observe that there is no such restriction on pilots holding command or staff positions in organizations with a primary mission other than flying.

Even though the reader must be cautioned that the statistical relationships on these small groups could be very misleading they do offer a basis for some prediction. Pilot positions seem to be generally the most attractive. Pilot retention rates ascertained in this survey are much higher than the retention rates of other groups. At this point, one can conclude that since the Air Force is concerned primarily with flying it is at the present, and no doubt it will remain, a pilot's organization.

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[5]Headquarters United States Air Force, Air Force Regulation 35-54, Rank, Precedence, and Command, an official publication of the Department of the Air Force (Washington, D.C.: 1956), pp. 8-9.

III. ASSIGNMENT AND RETENTION OF OFFICERS IN RELATION TO THEIR COLLEGE MAJORS

Officer assignments, in relation to college majors, are most conveniently placed into four categories: (1) those assigned to the same field, (2) those assigned to a closely related field, (3) those assigned to a remotely related field, and (4) those assigned to a non-related field. Because only volunteers can be assigned to flying duty, pilots and observers are not considered as mal-assigned, even though their college backgrounds may have little if any relation to their Air Force duties. Since flying officers are not considered mal-assigned, they will be considered as a separate or fifth group. A later part of this study will show that not all pilots and observers are completely satisfied with their jobs; however, in order to categorize these officers more nearly accurately, they must be treated as though they had either looked upon flying as a possible new vocation or an experience worth laying aside other vocational desires to "give it a try."

Homogeneously assigned officers are considered to be those who are assigned to duties that are closely related to their college majors or directly in the same field. Mal-assigned officers are, concomitantly, those who are assigned duties that are remotely related or show no relationship to their college majors. The numbers of officers who are mal-assigned may be determined from Table IV, which separates career from non-career officers and shows the numbers of officers in five categories: those assigned to flying duty; and those assigned to the

TABLE IV

CAREER AND NON-CAREER OFFICER
ASSIGNMENT RELATIONSHIPS WITH A
BREAKDOWN BY AREA OF COLLEGE MAJORS

Relationship of duty to college major	Active career officers			Active and inactive non-career officers			Active undecided			Totals
	A&S	B A	Eng	A&S	B A	Eng	A&S	B A	Eng	
Flying officers	6	1	1	4	4	7			2	25
Same field		1	1	3	11	8	1	1		26
Closely related				3						3
Remotely related	1			3						4
Non-related	3			5	3	2				13
Totals	10	2	2	18	18	17	1	1	2	71

Table 14

CANCER AMONG NON-CANCER CONTROLS
BY TIME INTERVIEWED WITH A
DIAGNOSTIC INTERVIEW
BROKEN DOWN BY AREA OF CITIES

	Active		Active and Inactive	
	Subjects		Subjects	
Interviewed by ...	Number	Percent	Number	Percent
Total				

same, closely related, remotely related, or non-related duties as compared to college majors. Officers are shown as arts and science, business administration, and engineering majors. The career officers are those who are presently on active duty and intend to remain in the Air Force. The non-career officers are those reserve officers who have returned to civilian life and those officers on active duty who definitely intend to return to civilian status. Four active officers included in the survey are undecided about an Air Force career and are shown in a separate column.

Of the forty-six non-flying officers querried, twenty-six had been assigned in a field the same as their majors. Three were assigned to closely related fields, four to remotely related fields, and thirteen officers were assigned to non-related fields. Twenty-nine of the forty-six non-flying officers can be considered as homogenously assigned. Seventeen are in remotely related or non-related fields and may be considered as mal-assigned. Homogeneously assigned officers make up 63 per cent of all non-flying officers. The percentages of mal-assigned, non-flying officers is 37 per cent. If flying officers are included as properly assigned, the percentages for the entire group surveyed are approximately 76 per cent homogeneously assigned and 24 per cent mal-assigned.

The most mal-assigned are arts and science majors. Table V shows assignment relationships of arts and science majors according to college majors and military occupations. Of the total nineteen non-flying

TABLE V

COLLEGE MAJORS RELATED TO MILITARY
OCCUPATIONS OF INACTIVE ARTS AND SCIENCE MAJORS

Relationship	College major	Military occupation
Same field:	Pharmacy	Pharmacy Officer
	Mathematics	Mathematician
Closely related:	Physics	Guided Missile Officer
	Physical education	Personnel Services
	Geology	Cartographic Officer
Remotely related:	Biology	Medical Services Administrator
	Mathematics	Nuclear Officer
	Pharmacy	Medical Supply Officer
Non-related:	Anthropology	Interceptor Controller
	Geology	Automotive Maintenance
	History	Information Services
	Education	Aircraft Maintenance
Flying:	Chemistry	Pilot
	Mathematics	Navigator-bombardier
	Mathematics	Navigator-bombardier
	Psychology	Navigator

arts and science majors, only four are shown as assigned in the same field as their college majors. Four others are assigned in closely related fields, three more in remotely related fields; and eight are assigned to non-related fields. To be more specific, seven of the nineteen, or 37 per cent, of the arts and science majors are homogeneously assigned and twelve, or 63 per cent, are mal-assigned.

More easily placed in the homogeneous assignments are the business administration majors. Table VI shows assignment relationships for officers who majored in business administration. Of the total sixteen non-flying officers who had majored in business administration, thirteen were assigned in fields the same as their majors. None is shown as assigned to closely or remotely related fields, and only three are shown in non-related fields. Of the total sixteen, 81 per cent are homogeneously assigned, and 19 per cent are mal-assigned. The reason business administration majors are more easily placed is probably that most officer positions in the Air Force, other than flying, call for some form of management background and can make direct use of most of the courses taken in a business administration curriculum.

Probably the most homogeneously assigned officers included in this study are the engineering majors. Assignment relationships of engineering majors are shown in Table VII. Nine of the eleven non-flying officers who majored in engineering are shown in assignments that are directly related to their college majors. None is in the

TABLE VI

COLLEGE MAJORS RELATED TO MILITARY OCCUPATIONS
OF INACTIVE BUSINESS ADMINISTRATION MAJORS

Relationship	Military occupation
Same field:	Administrative Officer
	Administrative Officer
	Auditor
	Budget Officer
	Disbursing Officer
	Manpower Management
	Manpower Management
	Personnel Officer
	Personnel Officer
	Procurement Officer
	Production Officer
Non-related:	Communications Officer
	Interceptor Controller
	Nuclear Weapons Officer
Flying:	Pilot
	Pilot

TABLE VII

COLLEGE MAJORS RELATED TO MILITARY
OCCUPATIONS OF INACTIVE ENGINEERING MAJORS

Relationship	College major	Military occupation
Same field:	Architectural eng	Installations Engineer
	Architectural eng	Installations Engineer
	Civil engineering	Installations Engineer
	Electrical eng	Electronics Engineer
	Electrical eng	Electronics Engineer
	Mechanical eng	Mechanical Engineer
	Industrial arts eng	Installations Engineer
Non-related:	Chemical engineering	Ground Electronics
	Civil engineering	Ammunitions Officer
	Civil engineering	Guided Missile Officer
Flying:	Chemical engineering	Navigator
	Civil engineering	Pilot
	Civil engineering	Pilot
	Industrial arts eng	Pilot
	Engineering (unspecified)	Pilot

closely-related or remotely-related categories. The two who are shown as assigned out of their college majors performed duties as Ground Electronics Officer (a chemical engineer), and Guided Missile Officer (a civil engineer). Even though these two officers were mal-assigned, their types of assignment are still somewhat homogeneous since these assignments call for considerable background in mathematics and other related technical subjects. Even the flying officers who had majored in engineering experienced an advantage of being able to apply their engineering background knowledge directly to the technical elements of flying. Such knowledge is especially beneficial in the study of navigation, weather, aircraft engines, and aircraft electronics systems.

At this point, the reader may wonder if there is any correlation between mal-assignment of officers and their desire to leave the Air Force. By studying Table VIII, the reader may ascertain that only two of the six non-flying career officers are homogeneously assigned. On the other hand, only four of the total fourteen can be considered as mal-assigned. Eight of the total fourteen are shown in flying duties bearing no relation to college majors, although they must be classified as being homogeneously assigned. Tables IX and X show similar relationships for active officers who are undecided about leaving the Air Force and who definitely plan to leave the Air Force, respectively.

Officers can be divided into two dichotomous groups, those who are career officers and those who are non-career officers. The four

TABLE VIII

COLLEGE MAJORS RELATED TO MILITARY OCCUPATIONS OF ACTIVE CAREER OFFICERS

Relationship	College major	Military occupation
Same field:	Civil engineering	Construction Engineer
	Business administration	Procurement Officer
Remotely related:	Pharmacy	Medical Supply Officer
Non-related:	Economics	Intelligence Officer
	Education	Supply Officer
	Sociology/psychology	Information Services
Flying:	Biology	Pilot
	Business administration	Navigator-bombardier
	Civil engineering	Pilot
	Geology	Pilot
	Mathematics	Pilot
	Physical education	Pilot
	Physics	Pilot
	Psychology	Pilot

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SOUTHWORTH
U.S.A.

TABLE IX

COLLEGE MAJORS RELATED TO MILITARY
OCCUPATIONS OF ACTIVE UNDECIDED OFFICERS

Relationship	College major	Military occupation
Same field:	Business administration	Supply Officer
	Medicine	Medical Officer
Flying:	Architectural engineer	Pilot
	Industrial arts engineer	Navigator

TABLE X

COLLEGE MAJORS RELATED TO MILITARY
OCCUPATIONS OF ACTIVE NON-CAREER OFFICERS

Relationship	College major	Military occupation
Same field:	Law	Legal Officer
Non-related:	Geology	Administrative Officer
Flying:	Business administration	Pilot
	Business administration	Navigator
	Civil engineering	Pilot
	Industrial arts eng	Navigator

undecided officers are omitted from the division because it is impossible to determine how many of them may remain in the Air Force or return to civilian status. The dichotomy is formed within the active and in-active officers through a further division, a separation of mal-assigned from homogeneously-assigned officers. By using the tetrachoric r formula, a modified form of the product moment coefficient of correlation derived specifically to determine the correlation of two sets of dichotomous variables, a coefficient of correlation of .006 is obtained (See Appendix C for the computation of the tetrachoric r formula). This shows that there is no discernable relationship between mal-assignment and a desire to leave the Air Force for those members included in this survey. Through reviewing Tables V through X, the reader may observe that there seem to be no discernable patterns in regard to assignment relationships and a desire to leave the service. A postulation that the choice of a military career is the result of personal adjustment more than job preparation seems in order. This possibility will be investigated in the next chapter.

From a study of the tables presented in this section of the chapter, it may be concluded with a fair degree of accuracy that, in most occupational areas of the Air Force, officers majoring in the arts and sciences are more difficult to place than those majoring in business administration and engineering. Most adaptable and most easily placed are the business administration majors. Engineers, because of their concentration in mathematics and physical sciences, fit easily into any

technical field and are probably the most homogeneously assigned of all AFROTC graduates included in this study.

IV. THE USEFULNESS OF MILITARY EXPERIENCE IN RELATION TO CIVILIAN OCCUPATIONS

An Air Force assignment that helps to bring about a change in the civilian occupation of an individual, or one that adds general knowledge useful in his civilian occupation, can conceivably be considered as a satisfying experience. Job satisfaction of officers can be determined further by observing what the individual does after leaving military service and through his own statement of how useful military experience has been to him. Tables XI, XII, and XIII show what arts and science, business administration, and engineering majors, respectively, did after leaving military service. These tables also show the value of military experience in relation to civilian occupations as conceived by these same officers.

Of the total forty-seven who have returned to civilian life, only five have changed their occupational goals in relation to their pre-service, or undergraduate, collge majors. The rest are employed directly in the field of their college majors and feel that their present employment is either their life's occupation or a progressive step in their life's work. It is difficult to determine just how much influence military experience has had in bringing about these five changes in occupational goal. In most cases it is doubtful that Air Force duties contributed any to the change. One reserve officer changed his apparent

TABLE XI

MILITARY AND CIVILIAN OCCUPATIONAL
RELATIONSHIPS OF ARTS AND SCIENCE MAJORS

Relationship	College major	Military occupation	Present occupation	Degree of usefulness
Same field	Pharmacy	Pharmacy	Pharmacist	direct
	Mathematics	Mathematician	Mathematician	direct
Closely realted	Physics	Guided Missile Officer	Physicist	direct
	Physical Education	Personnel Services	Athletic Consultant	direct
	Geology	Cartographic Officer	Graduate student	some
Remotely related	Biology	Medical Services Administrator	Graduate student	some
	Mathematics	Nuclear Officer	Research Engineer	some
	Pharmacy	Medical Supply Officer	Graduate student	little
Non related	Anthropology	Interceptor Controller	Student	none
	Geology	Automotive Maintenance Officer	Student (Mechanical Engineering)	some
	History	Information Services	Student	some
	Education	Aircraft Maintenance Officer	Graduate student	some
Flying officer	Chemistry	Pilot	Student	much
	Mathematics	Navigator-Bombardier	Manager of family business (real estate)	much
	Mathematics	Navigator-Bombardier	Technical Research	some
	Psychology	Navigator	Graduate student	some

TABLE XI

RELATIONSHIP OF CAPITAL OUTLAY TO SIZE OF SCHOOL SYSTEM

TABLE XII

MILITARY AND CIVILIAN OCCUPATIONAL
RELATIONSHIPS OF BUSINESS ADMINISTRATION MAJORS

Relation-ship	Military occupation	Present occupation	Degree of usefulness
Same field	Administrative Officer	Personnel Rlations	much
	Administrative Officer	Banker	direct
	Auditor	Public Accountant	direct
	Budget Officer	Family's business	some
	Disbursing Officer	Auditor	direct
	Manpower Management	Loan Manager (real estate)	much
	Manpower Management	Industrial Engineer	much
	Personnel Officer	Salesman	some
	Personnel Officer	Production Planning	some
	Procurement Officer	Salesman	some
	Production Officer	Law student	some
Non-related	Communications Officer	Sales Representative	some
	Interceptor Controller	Systems Analyst	much
	Nuclear Weapons Officer	Student	much
Flying officers	Pilot (Supply Officer)	Field Service Representative	direct
	Pilot	Insurance Salesman	some

TABLE XII

MILITARY AND CIVILIAN OCCUPATIONAL RELATIONSHIPS OF BUSINESS ADMINISTRATION MAJORS

TABLE XIII

MILITARY AND CIVILIAN OCCUPATIONAL
RELATIONSHIPS OF ENGINEERING MAJORS

Relationship	College major	Military occupation	Present occupation	usefulness
Same field	Architectural Eng	Installations Engineer	Architectural Eng	little
	Architecutral Eng	Installations Engineer	Building Contractor	direct
	Civil Engineering	Installations Engineer	Civil Engineer	much
	Electrical Eng	Electronics Engineer	Electrical Engineer	direct
	Electrical Eng	Electronics Engineer	Electrical Engineer	direct
	Mechanical Eng	Mechanical Engineer	Staff Research Engineer	direct
	Industrial Arts Eng	Installations Engineer	Industrial Engineer	some
Non-related	Chemical Engineering	Ground Electronics Officer	Engineer (unspecified)	some
	Civil Engineering	Guided Missile Officer	Design Engineer	little
	Civil Engineering	Ammunition Officer	Civil Engineer	some
Flying officers	Chemical Engineering	Navigator	Chemical Engineer	some
	Civil Engineering	Pilot	Engineering Instructor (college level)	some
	Civil Engineering	Pilot	Graduate Student (Eng)	none
	Industrial Arts Eng	Pilot	Student (Electrical Eng)	some
	Engineering (unspecified)	Pilot	Law student	some

occupational goal as the result of a feeling of obligation to take over his family's business of real-estate investments. His college major of mathematics seems to have no relation to his present civilian occupation; on the other hand, such an obligation toward his family could conceivably have been his reason for leaving the Air Force. Certainly the change could have had little bearing on his duty assignment as a navigator-bombardier. In another case, an engineering major assigned as an Armament Systems Officer returned to college to study law. A business administration major, who had been a Production Officer, also return to take up the study of law; however, since business administration is considered to be excellent background for the study of law, it would be difficult not to think that this may have been his original intent.

Only two of those who changed their occupational goals seem to have been influenced by their service occupations. An industrial arts engineering major, who has been assigned as a bomber pilot, returned to college and changed to the field of electrical engineering. He may have been influenced by having to work with the complex electrical systems that are found in the bombardment aircraft that he piloted. The most positive case of Air Force influence on the change of occupational goal seems to be that of the geology major who switched to mechanical engineering. In the Air Force he had been assigned as an Automotive Maintenance Officer.

A seemingly high number of the officers who left the Air Force returned to college. Of the total forty-seven, fourteen (nearly 30 per cent) are now enrolled in college. With the three exceptions

noted in the preceding paragraphs, all have returned for further education in their former major fields of study. The highest ratio of officers returning to college can be found in the arts and science group. Nine of a possible sixteen arts and science majors returning to civilian status are now attending college. Three of the fifteen engineering majors have resumed study and only two of the sixteen business administration majors have felt a need for additional education. The reason for the higher rate of arts and science majors who are engaged in further education probably stems from the fact that many of this group will become teachers or college instructors and must have advanced education to qualify for their intended positions. On the other hand, most business administration majors and engineers are qualified to begin working in their professional fields at the time they receive their baccalaureate degrees.

Reasonably, most officers who were homogeneously assigned found that their military experience could be applied directly to their civilian occupations or was of much value to them professionally. All homogeneously assigned officers found military experience to be of at least some value, with the exception of two officers--a pilot who found flying duty to be of no value to him as a graduate student in civil engineering and an architectural-engineering major, presently working as an architectural engineer, who found his experience as an Air Force Installations Engineer to be of little value in his civilian occupation. In the latter case, job specialization may have made a significant difference in the value of the experience, even though the background

training required for both architectural engineer as a civilian and the Air Force specialty of Installations Engineer are practically the same. Most mal-assigned officers felt that their experience as Air Force officers was valuable even though there was little or no relation to their civilian occupations. Most of these officers, no doubt, felt a gain of at least some degree of benefit from their practical experiences in the area of interpersonal relations.

V. THE ASSIGNMENT OF OFFICERS IN RELATION TO THEIR OCCUPATIONAL PREFERENCES

A final check can be given to the area of job satisfaction through evaluation of the answers to the question "What Air Force job would you rather have had?" Sixteen of the forty-seven inactive officers expressed desires for other positions. Assignment preferences are shown in Table XIV for all officers who would have preferred duty other than that to which they were assigned.

Only three of the sixteen inactive business administration majors had wanted jobs other than their assigned Air Force positions. Two of these officers had been mal-assigned in the duties of Communications Officer and Interceptor Controller. They would have preferred duties as Personnel Officer and Production Procurement Officer, respectively. The other business administration major who preferred a job different from the one of his assignment was assigned as an Administrative Officer; he would have liked the position of Personnel Services Officer.

TABLE XIV

ASSIGNMENT PREFERENCES OF
OFFICERS WHO LEFT THE AIR FORCE

BUSINESS ADMINISTRATION MAJORS

Military occupation	Preferred duty
Administrative Officer	Special Services
Communications Officer	Personnel Officer
Interceptor Controller	Production Procurement

ARTS AND SCIENCE MAJORS

College major	Military occupation	Preferred duty
Anthropology	Interceptor Controller	Intelligence Officer
Education	Aircraft Maintenance	Uncertain
Geology	Automotive Maintenance	Photo-Radar Intelligence
History	Information Services	Intelligence Officer
Mathematics	Navigator-bombardier	Physicist
Mathematics	Nuclear Officer	Atomic Weapons Officer
Pharmacy	Medical Supply Officer	Pharmacy
Physical Ed.	Personnel Services	Atomic Warfare
Physics	Guided Missile Officer	Physicist

ENGINEERING MAJORS

College major	Military occupation	Preferred duty
Chemical	Ground Electronics	Chemical Engineering
Civil	Pilot	Installations Engineer
Civil	Pilot	Installations Engineer
Industrial Arts	Installations Engineer	Production Officer

NOTE: One of the arts and science majors, not listed above, reported an unusual case. He had completed pilot training, was assigned as an Armament Systems Officer, a non-flying position, but wanted to be assigned as a pilot. His college major was chemistry.

Of the fifteen inactive engineering majors, four had preferred other jobs while they were in the Air Force. Two pilots in this group, who had majored in civil engineering, would rather have been assigned as Installations Engineers. An industrial-arts-engineering major, assigned as an Installations Engineer, wanted to be a Production Officer (a step up the management ladder of the same field). A chemical-engineering major, assigned as a ground-electronics officer, would have preferred an assignment as a chemical engineer with the Air Research and Development Command.

Nine of the sixteen arts and science majors who returned to civilian life would have preferred different jobs. Table XIV shows that four of these were extremely mal-assigned. The majors and assignments of these extreme cases are as follows: anthropology--Interceptor Controller, education--Aircraft Maintenance Officer, geology--Automotive Maintenance Officer, and history--Information Services Officer. Strangely, the preferred duties were not all in line with the college majors of the officers concerned. Non-related college majors and preferred duties reported are: anthropology--Intelligence Officer, geology--Photo-Radar Intelligence, and history--Intelligence Officer. The education major, assigned as an Aircraft Maintenance Officer, was uncertain about what he really would have liked to do. It has been mentioned earlier in this chapter that not all officers assigned to flying duty were satisfied with their assignments. Table XIV shows that a mathematics major assigned as a Navigator-bombardier would rather have been a physicist. Two pilots,

previously cited, would rather have been Installations Engineers; both had majored in civil engineering.

Very often the nation's defense requirements must be considered above the individual's personal desires. It becomes impossible to assign every AFROTC graduate to the exact position he would like; however, much dissatisfaction can be prevented if plausable reasons are given for the resulting mal-assignments. At the same time, it is economically wise to assign every officer possible to a position that makes the best use of his previous training and is compatable with his occupational goals. Even though the AFROTC graduate does not stay in the Air Force, he has still acquired certain skills in specialties that are necessary to maintain the nation's security. These skills can be tapped readily in the event of a national emergency, whether the reserve officer returns to active military service or is employed in a related civilian industry, vital to national defense.

CHAPTER III

SOCIO-ECONOMIC ADJUSTMENT OF AFROTC OFFICERS SERVING WITH THE AIR FORCE

Working conditions and the living conveniences, along with a compatable social milieu, contribute immeasurably to the satisfaction that one receives from his occupation. The occupation, itself, must provide the worker with a means of sustaining his desired way of living, and it must hold his interests in such a way that he receives pleasure from his accomplishments, if he is to be contented and reasonably well adjusted in personality. This part of the survey reveals that many officers who left the Air Force actually enjoyed a military way of life; however, certain other factors were important enough to convince them that they should return to civilian life. In one instance a personal interview with an officer of this group revealed that he was hesitant about leaving the Air Force but felt that he could never be satisfied from an occupational point of view until he had "tried his luck" in civilian life. He is now a prosperous insurance salesman and would like to return to active service with the Air Force.

This part of the study investigates the many factors that may make an occupation pleasant or unpleasant regardless of whether an individual is employed in an occupation that makes the best use of his educational background. A way of life becomes associated with a specific occupation, and in the armed forces social conformity and acceptance of the way of life are extremely important to individual

adjustment. In this part of the survey, eleven separate factors have been checked to show that the factor is of little significance, some significance, or great significance in relation to the respondent's decision to leave the Air Force. These eleven factors are grouped into three main areas which are: (1) financial security, (2) working conditions, and (3) Air Force social life. Each of these three main areas contributing to the socio-economic adjustment of ROTC officers in the Air Force will be discussed in a separate section of this chapter.

Individual differences are of vital importance in this part of the study. The questionnaire provides additional space for write-in factors, giving the respondents an opportunity to supply additional factors that may have been important to their decisions to leave the Air Force. The typical respondent checked three factors, of the eleven, as being of great influence in his decision to leave the service; however, in several instances, only one factor was checked as being of great significance. Other, more dissatisfied, respondents checked as many as seven and eight of the items as being of great influence in the formulating of a decision to return to civilian status. These trends are shown in the following sections.

I. FINANCIAL FACTORS CONSIDERED IN RELATION TO AN AIR FORCE CAREER

The financial factors listed in the questionnaire, as possible influences on an Air Force career, are financial security, home ownership, and the difference between what the individual can earn in the

Air Force and what he is earning, or expects to earn, in his lifetime civilian occupation. Tables XV and XVI show these relationships for non-career officers. Table XV divides non-flying officers according to their college majors, while Table XVI compares non-flying officers to flying officers and makes a distinction between officers who are homogeneously assigned and mal-assigned. Actual numbers of responses are shown in each category of Tables XV and XVI.

Financial security, as a reason for leaving the Air Force, was of great importance to only six of the forty-seven who have returned to civilian status. Least concerned over financial security were those non-flying officers who were most mal-assigned. Of the twelve mal-assigned, non-flying officers, eleven felt that financial security was of little importance to their decisions to leave the military service, and only one of the mal-assigned group felt that it was of some significance. Differences in the feelings about financial security between the different college-major groups are hardly discernable.

Home ownership seems to be of equal importance to the various groups, and to most of the officers who left active service it was of either some or great significance. Ten officers who left the Air Force felt that home ownership was of little significance as a reason for returning to civilian status. Home ownership seems to be more in the line of an additional factor rather than a primary factor in deciding to leave the service. Most officers who listed home ownership as being a factor of great significance also listed several other factors as being extremely important to their decisions.

TABLE XV

NON-FLYING, INACTIVE OFFICER'S ATTITUDES TOWARD
THE FINANCIAL FACTORS RELATED TO MILITARY SERVICE

Factor	A & S majors			Bus ad majors			Engineering majors			Totals		
	L	S	G	L	S	G	L	S	G	L	S	G*
Financial security	8	1	2	8	4	2	7	3		23	8	4
Home ownership	3	5	3	3	5	6	2	2	6	88	12	15
Pay differential	6	3	2	4	6	4	2	5	3	12	14	9

*The letters L, S, and G are abbreviations for little significance, some significance, and great significance, respectively.

TABLE XVI

INACTIVE OFFICER'S ATTITUDES TOWARD FINANCIAL FACTORS, ACCORDING TO ASSIGNMENT RELATIONSHIPS

Factor	Mal-assigned			Homogeneously-assigned			Total non-flying			Flying officers		
	L	S	G	L	S	G	L	S	G	L	S	G*
Financial security	11	1		13	7	4	24	8	4	6	3	2
Home ownership	3	6	3	5	7	12	8	13	15	2	5	4
Pay differential	8	3	1	5	11	8	13	14	9	9	2	

*The letters L, S, and G are abbreviations for little significance, some significance, and great significance, respectively.

Attitudes toward the pay differential between civilian and military occupations seems to be influenced greatly by the demand for and the supply of personnel to go into civilian occupations requiring the college background training of the individuals. The officers most concerned over the difference between civilian and military pay were the non-flying officers who had majored in business administration and engineering. The present industrial growth within the nation, no doubt, creates many new positions for engineers and administrators and offers considerable opportunity for advancement.

Flying officers appear to be the least concerned over the difference between military and civilian pay for their respective occupational positions. The reader may recall from Chapter II (page 22) that flying officers receive from $100.00 to $150.00 more pay per month than non-flying officers. The flying officers of this group, at the time they left the Air Force, had all completed at least three years of active service and were receiving $150.00 more pay per month than their contemporaries who were non-flying officers. Of the eleven flying officers who left the service, nine considered the pay differential to be of little significance and only two considered it to be of some significance. None of the flying officers considered pay to be an important reason for leaving the Air Force.

Mal-assigned officers, in general, felt the pay differential to be of little significance. Only two of the arts and science group felt that pay was extremely important. Both of these officers were assigned to non-flying duty; one was a pharmacist and the other was a physical

education major. Homogeneously-assigned officers considered pay to be more important than did the mal-assigned officers. Eight of the twenty-four homogeneously assigned officers thought pay to be extremely important, while only one of the twelve mal-assigned officers had the same feeling. It seems appropriate to point out that the majority of homogeneously assigned officers are business administration majors and engineers, with the respective numbers in each of these major fields being eleven and seven.

II. JOB FACTORS AND WORKING CONDITIONS IN MILITARY OCCUPATIONS

In the area of job factors and working conditions four factors are considered: (1) advancement opportunity, (2) job interest, (3) occupational prestige, and (4) the type of duty performed. These factors ascertain composite information concerning general attitudes, rather than any analysis of specific jobs.

Of the eleven factors listed in the questionnaire, advancement opportunity was the most frequently checked as being the greatest influencing factor contributing to the officer's decisions to leave the Air Force. Twenty-five of the total forty-seven who left the Air Force felt that Advancement opportunity was of great significance, fourteen thought it to be of some significance, and only eight felt it was of little significance. Arts and science majors were less concerned with advancement opportunity than business administration and engineering majors. The reason for business administration and engineering majors

being more concerned with advancement opportunity no doubt relates closely to the nation's industrial growth, discussed in the preceding section of this chapter. Little or no difference in attitude toward advancement opportunity can be discerned between flying and non-flying or homogeneously-assigned and mal-assigned officers. These relationships may be seen in Tables XVII and XVIII, as well as the relationships for job interest, occupational prestige, and the type of duty performed.

Job interest seems to be of more concern to non-flying arts and science majors than it is to the other groups. Eight of the eleven in the arts and science group marked job interest of great significance and the other three marked it as being of some significance. Only a slight difference can be detected between the attitudes of homogeneously-assigned and mal-assigned officers in relation to job interest. Half of the mal-assigned officers felt job interest was of great importance, compared to 37 per cent of the homogeneously-assigned officers who felt it to be of great significance. Exactly one-third of each of these two groups thought job interest was a factor of little significance in deciding to leave the Air Force.

Occupational prestige was of little concern to most officers. The least concerned with occupational prestige were flying officers and the next least concerned were business administration majors. In all, six of the total forty-seven officers who left the Air Force felt that occupational prestige was of great significance or, possibly, that as Air Force officers they had expected higher prestige than they had

TABLE XVII

NON-FLYING, INACTIVE OFFICER'S ATTITUDES TOWARD
JOB FACTORS RELATED TO MILITARY SERVICE

Factor	A & S majors			Bus ad majors			Engineering majors			Totals		
	L	S	G	L	S	G	L	S	G	L	S	G*
Advancement opportunity	4	2	5	2	3	9	1	4	5	7	9	19
Job interest		3	8	9	1	4	2	5	3	11	9	15
Occupational prestige	6	3	2	9	4	1	6	1	3	21	8	6
Type of duty performed	3	1	7	11	2	1	4	4	2	18	7	10

*The letters L, S, and G are abbreviations for little significance, some significance, and great significance, respectively.

TABLE XVIII

INACTIVE OFFICER'S ATTITUDES TOWARD JOB FACTORS, ACCORDING TO ASSIGNMENT RELATIONSHIPS

Factor	Mal assigned			Homogeneously-assigned			Total non-flying			Flying officers		
	L	S	G	L	S	G	L	S	G	L	S	G*
Advancement opportunity	4	2	6	3	7	14	7	9	20	1	5	5
Job interest	4	2	6	8	7	9	12	9	15	3	3	5
Occupational prestige	6	3	3	15	6	3	21	9	6	5	6	
Type of duty performed	2	2	8	16	5	3	18	6	12	3	5	3

*The letters L, S, and G. are abbreviations for little significance, some significance, and great significance, respectively.

actually experienced.

The type of duty performed was of moderate importance to most officers; however, it was of more importance to a greater number of mal-assigned officers than it was to other officers. Eight of the mal-assigned officers thought it was of great importance, while only three of the twenty-four homogeneously-assigned officers gave it the same importance. A great contrast is shown between business administration and arts and science majors. Only one business administration major thought that the type of duty he had performed was of great significance as a deterent to service life; two thought it was of some significance. Of the eleven arts and science majors, seven were greatly concerned about the type of duty they performed and one felt that it was of some significance. Only three of the arts and science majors seemed satisfied with their duties. Complaints in this area were about such things as "additional or extra duties, in no way connected with the primary duty," and "additional duties which interferred with primary duties."

III. ADJUSTMENT TO MILITARY LIVING AND THE SOCIAL MILIEU OF SERVICE LIFE

The many customs and traditions of the military service are foreign to most young men who enter the armed forces. Social living makes many demands on the young officer that may be inconsistent with his personal desires or convenience. He must adjust to these demands along with adjusting to living in a new community, away from home, and

occasional reassignment resulting in the relocation of his domicile. Tables XIX and XX show the relationships of attitudes toward the adjustment of officers to a military way of life.

The military way of life seems to be of great concern to about one-fourth of the respondents who left the Air Force. With the exception of engineering majors, there seems to be little significant difference between groups. Six of the ten non-flying engineers felt that the military way of life was a reason of great significance for leaving the Air Force. Two more engineers felt that it was of some significance. No particular reason seems obvious for such a trend and, with such a small sample, it may be no more than coincidental.

Social life seems to be the least important of any factor as a reason for officers to leave the Air Force. Only one officer, in the arts and science group, felt that social life was of great importance as a reason for terminating his service career. Social life was checked by eleven more as being of some significance. Thirty-five officers checked this factor as being of little significance. Apparently, most AFROTC grpduates have little trouble in adjusting to the social demands of military life.

Living near home was of great importance to only four of the forty-seven officers. Thirty-two officers were concerned very little about living near home and only eleven felt that it was of some significance.

Relocation, or moving, seems about as distateful for one group as another. Twenty-one of the forty-seven feel that moving is of great

TABLE XIX

NON-FLYING, INACTIVE OFFICER'S ATTITUDES TOWARD
THE SOCIAL MILIEU OF SERVICE LIFE

Factor	A & S majors			Bus ad majors			Engineering majors			Totals		
	L	S	G	L	S	G	L	S	G	L	S	G*
Military way of life	4	4	3	7	4	3	2	2	6	13	10	12
Social life	9	1	1	11	3		8	2		28	6	1
Living near home	8	3		8	4	2	8		2	24	7	4
Relocation (moving)	7	1	3	5	1	8	2	1	7	14	3	18

*The letters L, S, and G, are abbreviations for little significance, some significance, and great significance, respectively.

TABLE XX

INACTIVE OFFICER'S ATTITUDES TOWARD THE SOCIAL MILIEU, ACCORDING TO ASSIGNMENT RELATIONSHIPS

Factor	Mal-assigned			Homogeneously-assigned			Total non-flying			Flying officers		
	L	S	G	L	S	G	L	S	G	L	S	G*
Military way of life	3	6	3	10	8	6	13	12	11	3	6	2
Social life	8	3	1	20	4		28	7	1	7	4	
Living near home	8	4		16	4	4	24	8	4	8	3	
Relocation (moving)	4		8	10	3	11	14	3	19	4	5	2

*The letters L, S, and G, are abbreviations for little significance, some significance, and great significance, respectively.

importance as a reason for leaving the Air Force. Eight feel that it is of some significance and eighteen feel that it is of little significance.

IV. A SUMMARY OF THE ATTITUDES OF OFFICERS WHO CHOSE AN AIR FORCE CAREER

The factors that cause an individual to choose an Air Force career are just as important to the evaluation of the AFROTC program as the study of factors that deter others from making such a choice. The socio-economic adjustment factors included in the active officer questionnaire differ slightly from those included in the inactive officer questionnaire. The factors omitted from the active officer questionnaire are those that are conceivably more inclined to make a person decided to leave military service rather than choose it as a career. The omitted items are home ownership, living near home, relocation, and type of duty performed. It is also conceivable that the type of duty performed, in some cases, may actually cause the individual to become more attracted to military service; therefore, a substitution for this item is variety of assignment. Travel experience is substituted for relocation. In the active officer questionnaire, fringe benefits, such as commissary privileges, base exchange usage, and quarters allowance, along with retirement benefits are inserted as a favorable compensation for the lack of opportunity to own a permanent home or live exclusively in one's area of choice or in his home town. The item "living near home" was left in the questionnaire, however, because some of the officers who are still in the Air Force plan to return to civilian status. The fourteen career-minded officers all

checked this item as being of little significance in relation to desires for Air Force careers.

The factors of greatest importance in helping career-minded officers to decide on an Air Force career are job interest, travel experience, variety of assignment, and retirement benefits. Of less importance, but some significance, are advancement opportunity, fringe benefits, the military way of life, and occupational prestige. Factors of less significance are the pay differential between military pay and expected civilian earnings and social life within the Air Force. These relationships are shown in Tables XXI and XXII, according to the numbers of officers who shared attitudes toward the given factor.

Factors which made non-career, active officers decide to leave the Air Force are job interest (checked by two), social life (checked by one), advancement opportunity (checked by two), and the military way of life (checked by four of the total six officers). The first three of these four factors are, apparently, more favorable to non-career officers in a civilian setting. Of the four factors checked as being of great importance the service way of life seems to be the most distasteful to this group. Through the use of Tables XXI and XXII a comparison may be made between the attitudes of active career and active non-career officers. It seems significant that the officers who plan to leave the Air Force based their decisions upon only four factors that were of great importance, while career officers chose many factors as reasons of great importance for remaining in the Air Force. It seems reasonable to believe from this comparison that the officers who left the Air Force are not necessarily

TABLE XXI

SOCIO-ECONOMIC FACTORS MOST FAVORABLE
TO CAREER-MINDED OFFICERS

Factor	Flying career			Non-flying career			Total career			Active non-career*		
	L	S	G	L	S	G	L	S	G	L	S	G**
Job interest		1	7		3	3		4	10	1	3	2
Variety of assignment	1	1	6		3	3	1	4	9	3	3	
Travel experience		2	6		4	2		6	8	4	2	
Retirement benefits		5	3		2	4		7	7	6		

*Non-career officers checked factors that helped influcence their decisions to leave the Air Force, while career officers checked factors as reasons for remaining in the Air Force.

**The letters L, S, and G are abbreviations for little significance, some significance, and great significance, respectively.

TABLE XXII

SOCIO-ECONOMIC FACTORS OF LESS
SIGNIFICANCE TO CAREER MINDED-OFFICERS

Factor	Flying career			Non-flying career			Total career			Active non-career*		
	L	S	G	L	S	G	L	S	G	L	S	G**
Advancement opportunity	1	4	3	1	4	1	2	8	4	3	1	2
Financial security	1	4	3	1	3	2	2	7	4	4	2	
Fringe benefits	1	4	3	1	3	2	2	7	5	6		
Military way of life	3	3	2	1	3	2	4	6	4	1	1	4
Occupational prestige	3	2	3	2	3	1	5	5	4	4	2	
Pay differential	3	4	1	2	4		5	8	1	3	3	
Social life	3	3	2	3	2	1	6	5	3	3	2	1

*Non-career officers checked factors that helped influence their decisions to leave the Air Force, while career officers checked factors as reasons for remaining in the Air Force.

**The letters L, S, and G are abbreviations for little significance, some significance, and great significance, respectively.

TABLE XXII

SOCIO-ECONOMIC FACTORS OF LESS
SIGNIFICANCE TO CAREER MINDED OFFICERS

a collection of mal-contented individuals but were individuals who found at least one factor of great importance personally that was more favorable to them as civilians.

V. OTHER FACTORS IMPORTANT TO THE ADJUSTMENT OF AFROTC OFFICERS IN THE AIR FORCE

In addition to the factors discussed in the preceding section, other information is presented through the respondents' comments and through a section of the survey devoted to the effect of marital status on the officers' attitudes toward military service.

Thirty-two of the forty-seven officers who left the Air Force were married. Of these thirty-two married officers, eleven had wives who did not like the military way of life. Six of these eleven wives were separated from their husbands for prolonged periods when the officer concerned served a tour of duty in an overseas theater of operations. Five of the wives who did not like the military service were able to accompany their husbands overseas. One of these wives liked living overseas, but did not like the Air Force. The four other wives liked neither overseas living nor the Air Force. Twenty-one wives of officers who left the Air Force actually liked the military way of life. Only one of these wives who liked the Air Force had been separated from her husband because of his having to serve an overseas tour of duty. Two of the twenty-one wives who liked the Air Force were fortunate enough to accompany their husbands overseas and found that they liked both overseas living and the military way of life.

Four of the six officers who are in the Air Force but plan to return to civilian status are married. Three of their wives do not like the military way of life. None of these four wives have been separated from their husbands because of an overseas tour. Of the four officers who are undecided about a military career, three are married. Two of their wives like the Air Force and one does not.

A much higher rate of wives who liked service life can be found among the wives of career-minded officers. Twelve of the career officers are married. Only two of the wives of career officers do not like the military way of life. Five officers of this group served overseas, and of the five only one of these officers was not accompanied by his wife. One of the four wives who went overseas liked neither the Air Force nor living in a foreign country.

Of the total fifty-three non-career officers, active and inactive, thirty-six are married. Fourteen of the thirty-six married, non-career officers have wives who do not like the Air Force. With these raw numbers converted to percentages, 39 per cent of the non-career officers had wives who did not like the Air Force, compared to less than 17 per cent of the career officers who had wives who felt similarly. It is difficult to determine whether husbands left the Air Force because of pressure from dissatisfied wives or that wives did not like the service life because their husbands were not satisfied. On the other hand, it is apparent that wives do have some effect on the husband's attitude toward his occupation. If the officer is to remain in the Air Force, no doubt his duties and place of assignment should be harmonious with

his marital status.

The respondents of this survey were given the opportunity to write in additional comments of their attitudes toward socio-economic adjustment. Although few of these additional remarks coincide with each other, they are of value because they uncover areas of complaint that were previously overlooked. They also point up the possibility that reasons of dissatisfaction are usually not great in number but, rather are reasons of great intensity.

Four officers who left the Air Force elaborated on unsatisfactory duty situations. Two were assigned to the Strategic Air Command and did not like the constant "alert system" nor the prolonged periods of temporary duty away from their home stations. One officer objected to special duty, such as "Officer of the Day," after normal working hours. The other officer of these four did not like being stationed at an isolated Aircraft Control and Warning site.

Two officers objected to the recurring reductions in strength of the armed forces, which they believed made a career in the Air Force very uncertain. Another officer described this uncertainty as "false security." Most other complaints were of concern to only one respondent and as a group these complaints cover a large general scope. One officer supplied the need for further education as a reason for leaving the Air Force; others were concerned with such things as inadequate housing, lack of travel, poor working conditions, separation from one's wife, and an obligation to one's parents for assuming management of the family's business. One dissatisfied officer objected to his having to work with

"uninspiring" fellow workers. One officer wrote, "Service life was good and I enjoyed it, but I didn't get to fly enough." Another flying officer complained that after having completed twenty months of training as a navigator-bombardier he was assigned to a non-flying position of Ground Electronics Officer.

Business administration majors seemed to be especially concerned over the opportunity for advancement. One of these officers felt that undue importance is placed on "rank over ability." Another felt that there is not enough compensation for those who have received special technical training. Still another believed that there is a "devaluation of 'pencil pushers,'" and that the Air Force is "indifferent to cost reduction." This same officer stated that he had "held the position of a lieutenant colonel, but did not get the pay." Other objections were to the "promotion system" and the "little chance for real advancement."

Not all reasons for leaving the Air Force were directed against the service. One officer had a deaf child and returned to civilian status in order to place his child in a special school. Another officer wrote:

> All in all, the little time spent in the Air Force represents the most enjoyable phase in my life, which would, no doubt, have been continued if it would have been possible to work in a field for which I was more suitably trained.

Apparently "all is not lost" in regard to the officers who decided in favor of civilian status as opposed to a military career. Ninteen of the forty-seven officers who left the service, or 40 per cent, are either participating or intend to participate actively in

Air Force reserve programs. In looking at the brighter side one may observe that, after all, being an Air Force officer, as a graduate of the AFROTC program, is a fairly rewarding and respectable way of satisfying one's military service obligation.

CHAPTER IV

THE COLLEGE CURRICULA AS RELATED TO MILITARY DUTIES OF AFROTC OFFICERS

The officer training of the AFROTC cadet comprises three main areas: the cadet's college curriculum, the AFROTC curriculum at the university, and four weeks of intensive training with a summer training unit at a permanent Air Force base. The training of an AFROTC cadet normally covers a period of four years, or the time required for him to complete the requirements for a baccalaureate degree. All of his training, except for the four weeks spent at the summer training unit, is conducted at the college or university. For this reason, a curriculum guidance program for AFROTC cadets necessarily involves considerable evaluation of the various college curricula with respect to their adaptability in providing the proper background for related military occupations.

One graduate of the AFROTC program noted a great weakness in the "extremely poor and short career guidance and counseling at Lackland Air Force Base (indoctrination center), resulting in mal-assignment relating little or none to previous training and experience." This same officer continued, "I feel that this phase which decides a man's job, possibly for life, should be given closer attention." Perhaps the weakness is not only at Lackland Air Force Base, but lies within many other areas of the armed forces as well, including the ROTC programs.

In order to evaluate college curricula, graduates were asked three questions relating to the courses taken by them that they felt were the most beneficial to their Air Force duties, courses or areas of study they had not taken but felt would have been beneficial, and courses they would recommend to undergraduates who will be commissioned through the AFROTC program. Most officers listed courses in their major fields as being useful in the performance of Air Force duties. Homogeneously assigned officers found that nearly all courses they had taken were of great value, directly or indirectly, to the performance of their assigned duties. Very often officers who had been assigned to technical fields listed non-technical courses and officers assigned to non-technical fields listed technical courses that either were beneficial or would have been beneficial to their duties in the Air Force.

In listing courses that should have been taken most officers showed that they felt sufficiently qualified in the areas of their college majors; however, many of them expressed the need for additional college level training in other fields. Engineering majors repeatedly listed psychology, management, English, business letter writing, government, and related studies as areas of study deficient in their curricula. Conversely, many business administration and arts and science majors felt a deficiency in mathematics, physics, and technical courses. The next two sections of this chapter will each show in more detail the strengths and weaknesses of curricula in relation to needs of the newly commissioned Air Force officer. The third section presents the recommendations of these officers in relation to curricula deficiency

and in the fourth section of the chapter the strengths and weaknesses of the AFROTC curriculum are shown.

I. COLLEGE COURSES BELIEVED TO BE MOST HELPFUL TO GRADUATES OF THE AFROTC PROGRAM

The first of three questions asked in determining the adequacy of college curricula was "Which of your college courses (other than AFROTC) helped you most in the Air Force?" The answers to this question and the following questions show some definite patterns that support the hypothesis that there is a need for curriculum guidance for the cadets enrolled in the AFROTC program. Tables XXIII, XXIV, and XXV show strengths, or most beneficial courses, according to technical and non-technical choices as related to the officer's majors and Air Force duties. Table XXIII shows relationships for arts and science majors; Table XXIV does the same for business administration majors; and Table XXV shows the same relationships for engineering majors.

For arts and science majors, the courses believed to be most beneficial are distributed over broad areas. Half, or fourteen of the total twenty-eight arts and science majors, listed courses in their major field of study. Six of the twenty-eight listed no courses as being especially beneficial to Air Force duties. Since these questions are supply items on the questionnaire, it is apparent that these six officers did not feel strongly about the value of any areas of their academic preparation in relation to their usefulness in performing military duties. There seems to be a fairly close balance between

TABLE XXIII

COLLEGE BACKGROUND COURSES BELIEVED TO BE MOST HELPFUL TO ARTS AND SCIENCE MAJORS

Relationship	Numbers of officers assigned	Areas in which courses were cited: In major	Other than major, technical	Other than major, non-tech	Officers listing no courses
Same field	4	4	1	1	
Closely related	3	3	2	1	
Remotely related	4	2			2
Non-related	8	1	1	5	3
Flying	9	4	4	3	1
Totals	28	14	8	10	6

NOTE: In this table, there is no restriction on the number of areas an officer can list; therefore, when officers list several areas each, there may be more areas than the number of officers.

Relation-ship	Number of offspring assigned	Number of offspring not assigned	Total number of offspring
Same field			
Closely related			
Remotely related			
Non-related			
Flyby			
Total			

TABLE XXIV

COLLEGE BACKGROUND COURSES BELIEVED TO BE MOST HELPFUL TO BUSINESS ADMINISTRATION MAJORS

Relationship	Number of officers assigned	Areas in which courses were cited: In major	Other than major, technical	Other than major non-tech	Officers listing no courses
Same field	13	12		7	
Closely related					
Remotely related					
Non-related	4	3	1	1	
Flying	5	4		3	
Totals	22	18	1	10	

NOTE: In this table, there is no restriction on the number of areas each officer can list; therefore, when officers list several areas each, there may be more areas listed than the number of officers.

TABLE XXV

COLLEGE BACKGROUND COURSES BELIEVED TO BE MOST HELPFUL TO ENGINEERING MAJORS

Relationship	Number of officers assigned	Areas in which courses were cited: In major	Other than major, technical	Other than major, non-tech	Officers listing no courses
Same field	9	9		1	
Closely related					
Remotely related					
Non-related	2	2			
Flying	10	7		1	2
Totals	21	18		2	2

NOTE: In this table, there is no restriction on the number of areas an officer can list; therefore, when officers list several areas each, there may be more areas listed than the number of officers.

the listing of technical and non-technical courses outside the major fields of arts and science majors. Eight officers felt other technical courses were beneficial compared to ten officers who found that their non-technical courses were helpful to the performance of their Air Force duties.

Business administration majors were more inclined to feel that the most beneficial courses they had taken in college were the courses in their major field. Eighteen of the total twenty-two business administration majors listed courses in the field of business administration as being the most beneficial. None of this group failed to list beneficial courses, indicating that in relation to the arts and science group business administration majors probably found their college courses more directly useful than did the arts and science majors. Of the business administration group, only one officer listed technical courses other than his college major as being especially useful. On the other hand, ten business administration majors felt that other non-technical courses were of great benefit.

Engineers were even more inclined than business administration majors to restrict their listing of most beneficial courses to the areas of their major fields of study. Eighteen of the total twenty-one engineering majors listed engineering courses as being among the most helpful courses they had taken. None of the engineering majors listed other non-technical courses, showing that the engineering curriculum in itself is probably sufficient to cover this area. Only two engineers listed other non-technical courses as being helpful in the performance of Air Force duties.

Specific courses or course areas are listed in Table XXVI to show the areas of study outside of those required by the major fields that were believed by officer to be the most beneficial in the performance of Air Force duties. The reader may readily see that arts and science majors listed far more courses than either business administration majors or engineering majors. This trend should not be regarded as an indication that engineering majors found less need for additional courses because of the nature of their assignments, but makes a further examination of the college curricula in order.

A further examination of the curricula, as outlined in The University of New Mexico Bulletin, reveals that highly restrictive curriculum of the College of Engineering permits far less elective courses to be taken than either the arts and science or business administration curriculum permits. One of the engineering curricula permits only five credit hours of non-technical electives, of a total 140 credit hours required for graduation, to be taken. In another engineering department, "A minimum of six credit hours of electives must be selected in the area of humanistic and social studies."[1] The College of Business Administration permits from seventeen to twenty-six credit hours of "free electives" of a total of 128 required credit hours.[2] The Arts and Science Departments allow up to twenty-four credit hours of

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[1]University of New Mexico, The University of New Mexico Bulletin, 1957-58 Catalogue Issue (Albuquerque, New Mexico: 1957), pp. 142-144.

[2]Ibid., p. 113.

TABLE XXVI

SPECIFIC COURSES LISTED AS BEING MOST BENEFICIAL TO THE PERFORMANCE OF AIR FORCE DUTIES

ARTS AND SCIENCE MAJORS

Other technical		Other non-technical	
Astronomy	(1)	Biology	(1)
Chemistry	(1)	English	(1)
Mathematics	(5)	History	(1)
Physics	(2)	Languages	(1)
		Literature	(1)
		Management	(1)
		Philosophy	(1)
		Psychology	(1)
		Sociology	(1)
		Writing	(1)

BUSINESS ADMINISTRATION MAJORS

Other technical		Other non-technical	
Mathematics	(2)	English	(2)
		Government	(1)
		History	(1)
		Psychology	(2)
		Speech	(2)

ENGINEERING MAJORS

Other technical		Other non-technical	
None		English	(1)

NOTE: The numbers shown in parentheses after each course indicate the numbers of officers in each major field who had taken such a course and felt that it was beneficial to him as an Air Force officer.

unrestricted electives; however, the curricula within the areas of arts and science guide the students into many broad areas of study.[3]

II. CURRICULUM DEFICIENCIES NOTED BY THE GRADUATES OF THE AFROTC PROGRAM

The second question relating to the college curricula of graduates of the AFROTC program asked: "What, if any, additional courses do you feel you should have taken to aid you in your service career?" This section of the study investigates the influence of the officers' particular assigned Air Force duties on his desires for further education, as well as the technical or non-technical nature of the courses cited. These relationships may be seen in Tables XXVII, XXVIII, and XXIX, which show the composite educational desires for arts and science, business administration, and engineering majors, respectively.

Of the twenty-eight arts and science majors, nine felt a need for additional, technical college courses; fifteen desired other, non-technical courses; five listed no additional desired courses; and none indicated a need for additional courses in his specific major. There is a possibility that arts and science majors did not feel specific needs in the areas of their major fields because they were more mal-assigned than other groups and fewer arts and science majors worked directly in their major fields than did the business administration or engineering majors. On the other hand, those who worked directly in the field of their majors probably felt that their college backgrounds

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[3] Ibid., p. 109.

TABLE XXVII

ARTS AND SCIENCE MAJORS' LISTING OF ADDITIONAL COURSES THAT WOULD HAVE BEEN BENEFICIAL

Relationship	Number of officers assigned	Areas in which courses were cited				Officers listing no courses
		In major	Other than major, technical	Other than major, non-tech	In Air Force specialty	
Same field	4			3		1
Closely related	3			2		1
Remotely related	4		1	3	2	
Non-related	8		2	4	2	2
Flying	9		6	4	1	1
Totals	28		9	15	5	5

NOTE: In this table, there is no restriction on the number of courses an officer can list; therefore, when officers each list several courses, there will be more courses listed than the number of officers.

TABLE XXVIII

BUSINESS ADMINISTRATION MAJORS' LISTING OF
ADDITIONAL COURSES THAT WOULD HAVE BEEN BENEFICIAL

Relationship	Number of officers assigned	Areas in which courses were cited: In major	Other than major, technical	Other than major, non-tech	In Air Force specialty	Officers listing no courses
Same field	13	2	1	2		6
Closely related						
Remotely related						
Non-related	4		2	1	2	1
Flying	5	1	3	2		
Totals	22	3	6	4	2	7

NOTE: In this table, there is no restriction on the number of courses an officer can list; therefore, when officers each list several courses, there will be more courses listed than the number of officers.

TABLE XXVIX

ENGINEERING MAJORS' LISTING OF ADDITIONAL COURSES THAT WOULD HAVE BEEN BENEFICIAL

Relationship	Number of officers assigned	Areas in which courses were cited				Officers listing no courses
		In major	Other than major, technical	Other than major, non-tech	In Air Force specialty	
Same field	9			4		5
Closely related						
Remotely related						
Non-related	2			1		1
Flying	10			4	2	5
Totals	21			9	2	11

NOTE: In this table, there is no restriction on the number of courses an officer can list; therefore, when officers each list several courses, there will be more courses listed than the number of officers.

had prepared them well for their duties. The desires of five arts and science majors for additional education seemed to be influenced to some extent by their Air Force assignments. A history major who was assigned as an Information Services Officer discovered that a knowledge of typing would have helped him in preparing news releases. An education major who was assigned as an Aircraft Maintenance Officer thought that a background in mathematics or engineering would have been helpful in the performance of his duties. A pharmacy major felt that business administration courses would have been beneficial to his performance of duties as a Medical Supply Officer. Another officer, a pharmacy major, who was assigned in Germany and France felt that a knowledge of modern foreign languages would have helped him in the contacts with and supervision of indigenous personnel while performing his Air Force duties. A mathematics major who was assigned as a Nuclear Officer felt that he should have taken some engineering courses during his college years, especially courses relating to nuclear engineering.

Business administration majors seem, in general to be well prepared for their Air Force duties; however, fourteen of the twenty-two officers in this group listed additional courses that would have helped them. The only three officers who listed courses in their major fields that they should have taken were business administration majors. These three officers felt deficient in the areas of personnel relations, job evaluation, and work flow. Six business administration majors felt that they should have taken more technical courses and four believed that additional non-technical courses would have been of great benefit.

Seven business administration majors in all failed to list courses they felt they should have taken, indicating the possibility that they did not feel any great deficiencies in their college curricula. Two officers in the business administration group seemed to have been influenced by their Air Force duties. One of these officers had been assigned as a Communications Officer and the other as a Nuclear Weapons Officer. Both felt a need for additional physics and engineering courses.

Eleven of the twenty-one engineering majors seemed to be satisfied with their college preparation, since they failed to list any courses as being needed in their Air Force duties. Of the ten who did list courses that should have been taken, none listed courses in his major field, none listed a technical course other than in his major field, nine listed other non-technical courses, and two listed courses that seemed to be a result of influence of the Air Force. One of the officers who seemed unduly influenced by his Air Force duties desired additional courses in conference techniques because his duties had required him to participate in many conferences. A pilot who had majored in engineering listed business administration as a necessity for his Air Force duties, with the qualifying statement, "All I did was push paper."

The specific courses that were desired by the officers included in the survey are shown in Table XXX according to major fields and whether the course was technical, non-technical, or the desire for the course seemed to be influenced by the officer's duty assignment. All groups of major fields express a need for additional non-technical courses, with the most cited non-technical courses being in the areas

TABLE XXX

SPECIFIC COURSES THAT GRADUATES FELT THEY SHOULD HAVE TAKEN

ARTS AND SCIENCE MAJORS

Other technical		Other non-technical		Air Force influenced	
Electronics	(1)	English	(1)	Business	(1)
Engineering	(2)	Languages	(1)	Engineering	(2)
Mathematics	(1)	Law	(1)	Languages	(1)
Physics	(1)	Management	(5)	Typing	(1)
		Philosophy	(1)		
		Psychology	(5)		
		Salesmanship	(1)		
		Social science	(1)		
		Sociology	(1)		
		Speech	(1)		

BUSINESS ADMINISTRATION MAJORS

Other technical		Other non-technical		Air Force influenced	
Engineering	(1)	English	(1)	Engineering	(1)
Physics	(1)	Government	(1)	Physics	(1)
		History	(1)		
		Law	(1)		
		Psychology	(2)		
		Writing	(1)		

ENGINEERING MAJORS

Other technical	Other non-technical		Air Force influenced	
None	Business	(1)	Business	(1)
	English	(1)	Conference methods	(1)
	Geography	(1)		
	Law	(1)		
	Management	(3)		
	Psychology	(2)		
	Speech	(2)		

NOTE: The numbers in parentheses after each course show the numbers of officers who felt a need for the course.

of management and psychology. Arts and science majors felt a greater need for technical courses and seemed to be influenced slightly more by their Air Force duties when listing the courses they believed would have been helpful.

III. COURSES SUPPLEMENTARY TO THE CURRICULA RECOMMENDED BY AFROTC GRADUATES

The final question concerning the university curricula asked the graduates: "What university courses would you recommend to an undergraduate who will be commissioned in the Air Force?" In their recommendations for courses that would be helpful to future officers, the graduates of the AFROTC program suggested well-balanced programs that include both technical and non-technical courses. Tables XXXI, XXXII, and XXXIII show the numbers of officers who cited courses in the different categories for arts and science, business administration, and engineering majors, respectively.

Of the twenty-eight arts and science majors, only one failed to list recommended courses for under-graduates. Only one officer listed courses in his major field. The listing of technical and non-technical courses is balanced with seventeen officers listing courses in each. Five arts and science majors recommended courses that seemed to be influenced by their Air Force duties. One of these officers was a mathematics major who had been a Nuclear Officer; his recommendation was in the areas of engineering. An Information Services Officer who had majored in history recommended courses in technical writing. The

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TABLE XXXI

COURSES RECOMMENDED BY ARTS AND SCIENCE MAJORS
FOR CADETS WHO WILL BE COMMISSIONED IN THE AFROTC

Relationship	Number of officers assigned	Areas in which courses were cited				Officers listing no courses
		In major	Other than major, technical	Other than major, non-tech	In Air Force specialty	
Same field	4	1	1	2		
Closely related	3		1	4		
Remotely related	4		2	2	1	
Non-related	8		4	6	1	1
Flying	9		9	4	3	
Totals	28	1	17	18	5	1

NOTE: In this table, there is no restriction on the number of courses an officer can list; therefore, when officers each list several courses, there will be more courses listed than the number of officers.

TABLE XXXII

COURSES RECOMMENDED BY BUSINESS ADMINISTRATION MAJORS FOR CADETS WHO WILL BE COMMISSIONED IN THE AFROTC

Relationship	Number of officers assigned	Areas in which courses were cited				Officers listing no courses
		In major	Other than major, technical	Other than major, non-tech	In Air Force specialty	
Same field	13	4	3	9	1	3
Closely related						
Remotely related						
Non-related	4	1	1	4		1
Flying	5		3	4		
Totals	22	5	7	17	1	4

NOTE: In this table, there is no restriction on the number of courses an officer can list; therefore, when officers each list several courses, there will be more courses listed than the number of officers.

TABLE XXXIII

COURSES RECOMMENDED BY ENGINEERING MAJORS FOR CADETS WHO WILL BE COMMISSIONED IN THE AFROTC

Relationship	Number of officers assigned	Areas in which courses were cited: In major	Other than major, technical	Other than major, non-tech	In Air Force specialty	Officers listing no courses
Same field	9	2	4	4	1	2
Closely related						
Remotely related						
Non-related	2		1	1		
Flying	10	2	6	5		1
Totals	21	4	11	10	1	3

NOTE: In this table, there is no restriction on the number of courses an officer can list; therefore, when officers each list several courses, there will be more courses listed than the number of officers.

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remaining three officers of the arts and science group who seemed to be influenced by their Air Force specialties were navigators. Two of these three navigators recommended electronics because of the electrical and radar systems with which they worked; the other navigator recommended astronomy because of its relationship to celestial navigation.

Of the twenty-two business administration majors, four had no recommendations of worth-while courses for undergraduates to take. Five business administration majors recommended courses in their major field. Business administration majors foresaw a greater need for the undergraduate to enroll in non-technical courses than technical courses. Seventeen of the business administration majors recommended non-technical courses compared to seven who recommended technical courses. Only one business administration major seemed to be influenced by the duties he had performed. This officer recommended mathematics and qualified his recommendation by adding, ". . . if entering a technical field."

Three of the twenty-one engineering majors made no recommendations. Four recommended courses in their major fields of study. Technical and non-technical recommendations are almost balanced with eleven engineers recommending technical courses and ten recommending non-technical courses. One officer, although he made no specific recommendations, should be classified as being influenced by the assigned Air Force duties since he commented, "It depends upon the chosen field."

Table XXXIV shows the recommendations of arts and science, business administration, and engineering majors for courses outside their major fields. Several of the recommendations were influenced by the Air Force

TABLE XXXIV

COURSES RECOMMENDED BY GRADUATES
FOR THE CADETS IN THE AFROTC PROGRAM

ARTS AND SCIENCE MAJORS

Other technical		Other non-technical		Air Force influenced	
Electronics	(2)	English	(2)	Astronomy	(1)
Engineering	(3)	History	(1)	Electronics	(2)
Mathematics	(2)	Languages	(1)	Engineering	(1)
Physics	(2)	Management	(2)	Writing	(1)
		Philosophy	(1)		
		Psychology	(5)		
		Sociology	(2)		
		Speech	(1)		
		Writing	(2)		

BUSINESS ADMINISTRATION MAJORS

Other technical		Other non-technical		Air Force influenced	
Mathematics	(1)	English	(1)	Mathematics	(1)
		Languages	(1)		
		Psychology	(1)		
		Speech	(4)		
		Writing	(2)		

ENGINEERING MAJORS

Other technical		Other non-technical		Air Force influenced
Chemistry	(1)	Accounting	(1)	None listed
Mathematics	(2)	Economics	(1)	
Physics	(3)	English	(1)	
		Government	(1)	
		Law	(1)	
		Management	(2)	
		Psychology	(1)	
		Speech	(1)	

NOTE: The numbers in parentheses after each course show the numbers of officers who recommended the course.

specialties of the officers concerned. Most recommendations for courses are in the non-technical fields. On the other hand, there is a good indication that these officers feel that technical courses such as mathematics and physics, along with some engineering background, are important to Air Force officers.

By referring again to Tables XXIII, XXIV, and XXV, the reader may note little difference between the feelings of officers on their most beneficial courses taken as related to whether they were homogeneously assigned or mal-assigned. Similarly the relationships for mal-assigned and homogeneously assigned officers shown in Tables XXVII, XXVIII, and XXVIX, in regard to curricula deficiencies, bring out no significant differences except in the case of arts and science majors shown in Table XXVII. This table shows that mal-assigned officers who had majored in the arts and sciences felt slightly deficient in the technical areas of preparation for Air Force duty. Tables XXXI, XXXII, and XXXIII show little if any differences between mal-assigned and homogeneously assigned officers regarding their recommendations for courses to be taken by undergraduates, with the slight exception of the recommendations of flying officers. Flying officers of the arts and science group weighted technical courses much more than non-technical courses. Of the nine flying officers in the arts and science group, all recommended technical courses compared to only four who reccmmended non-technical courses. Of the five flying business administration majors, three recommended technical courses and four of these same five recommended non technical course. Of the ten flying

engineering majors, six recommended other technical courses and two listed courses in their major fields, which are also technical courses. In comparison, five of the ten engineering majors who had been assigned to flying duty recommended non-technical courses. No doubt, officers who had little previous technical education found more difficulty in comprehending the highly technical aspects of aircraft and aerial navigation than those more adequately prepared in other technical fields.

IV. STRENGTHS AND WEAKNESSES OF THE AFROTC CURRICULUM

The AFROTC curriculum contributes twenty-four credit hours toward graduation in most colleges of the university.[4] The goal of the Generalized Curriculum is to insure that the course content and quality of instruction are kept on a high level to satisfy an assumed obligation to the university in its maintenance of academic standards.[5] Many of the criticisms expressed in this section have been corrected through the implementation of the Generalized Curriculum. On the other hand, the critical views they held seem valid. The Generalized Curriculum cannot do the whole job of turning out well qualified officers by itself. The Air Force officers who instruct the courses within the Generalized Curriculum must be alert to the needs of young officers about to enter active service with the Air Force. This section shows some of the strengths and weaknesses within the AFROTC program from the opinions

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[4] Ibid., pp. 142-144.

[5] Headquarters AFROTC, The AFROTC Generalized Curriculum, op. cit., pp. 9-10.

of AFROTC graduates who have had an opportunity to test the principles learned from the AFROTC curriculum through actual experience.

This section of the study does not specifically strive to bring out the strengths of the AFROTC program, but has more specifically asked for weaknesses within the program. In the process of determining weaknesses, the strengths of the program have also been uncovered or made more obvious. The question asked of the AFROTC graduates included in the survey is: "What if any areas of the AFROTC curriculum seemed weak or inadequate?" The question was given the form of a supply item with no forced choices. Responses are divided into seven general areas in which the response is classified according to whether the respondent thought the area had been given too much attention, not enough attention, or the preparation in the area was generally weak. The seven general areas are: (1) indoctrination for commissioned service, (2) flying indoctrination and background courses, (3) leadership training, (4) military training, (5) organization and management, (6) personnel and administration, and (7) specialized courses. The specialized courses are administration, communications, and supply, which were being taught at the time these officers attended college. Table XXXV shows the attitudes of thirty-nine officers who responded to these seven general areas.

Of the total seventy-one officers included in the survey, fifty-seven responded to this item; however, not all responded to the seven general areas listed in the preceding paragraph. Other responses related to the curriculum and methods of instruction. Seven officers who responded to this item felt that the curriculum was adequate without change.

TABLE XXXV

AREAS WITHIN THE AFROTC CURRICULUM THAT WERE CRITICIZED BY GRADUATES OF THE PROGRAM

Areas of criticism	Too much	Not enough	Weak
Indoctrination for commissioned service		2	2
Flying indoctrination and background courses	2	2	1
Leadership training		4	
Military training		6	2
Organization and management		4	
Personnel and administration		5	3
Specialized courses	2	1	3

TABLE XXXV

AREAS WITHIN THE APROTC CURRICULUM THAT
WERE CRITICIZED BY GRADUATES OF THE PROGRAM

Areas of criticism	Too much	Not enough	
Indoctrination for commissioned service		2	2
Flying indoctrination and background courses	2	2	4
Leadership training		4	4
Military training		6	6
Organization and management		4	4
Personnel and administration		5	5
Specialized courses	2	1	3

Five officers expressed very favorable opinions toward the curriculum and methods of instruction. Sixteen felt that the curriculum was weak and another three commented on the poor quality of instruction. Some of the criticisms against the curriculum were that materials were obsolete and poorly organized, too much emphasis had been placed on details and not enough on principles, the course content was boring and of little value to military life, and that the curriculum was "non-realistic." Two officers felt that the curriculum should include more practical experience through field trips. One officer proposed three summer encampments to be conducted after the freshman, sophomore, and junior years of college. Another officer felt that the entire AFROTC program should be condensed into one academic year. The need for more "of the seminar type of courses," was expressed by another. One of the career-minded officers suggested that the curriculum should stress ". . . that the Air Force is a deterrent of war and a means of technological progress." On the non-critical side, officers expressed such opinions as ". . . generally, I felt that the AFROTC program did a fairly commendable job of preparation," and "No sweat, they train you for what they want!"

The Generalized Curriculum has corrected most of the complaints expressed in the preceding paragraphs.[6] Nearly all of the advanced courses are taught in seminar groups. Considerable time is spent on command and staff organization. Forty classroom hours are spent on the principles of leadership and management, with supplementary courses

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[6] Ibid., pp. 17-38.

designed to improve communicative techniques and provide practical experience in the area of group dynamics. Table XXXV shows that twenty-six of the thirty-nine officers who presented criticism within these seven areas were concerned with leadership training, military training, organization and management, and personnel and administration. These are areas that contribute heavily to officer development, which has been improved greatly through the Generalized Curriculum. The complaint against poor indoctrination for commissioned service has been corrected through ten classroom hours now set aside for a sub-course titled "Briefing for Commissioned Service." Specialized courses have been dropped from the program. Six classroom hours of instruction during the sophomore year are spent in the discussion of careers in the United States Air Force. At this time the cadet learns that he will be unable to gain specialized training from the AFROTC program alone, but will need to attend special Air Force schools after he is commissioned and begins his active service with the Air Force.

An important area of criticism that has not been changed is in the flying indoctrination and background courses. Many of these courses are general in nature and have much to do with strategic operations of the Air Force; however, courses such as navigation and weather are highly specialized and as one pilot pointed out there is possibly "Too much emphasis placed on flying, weather, and navigation because these are taught again in flying school."

An evaluation of the present curriculum indicates that the curriculum in itself is not manifest with weaknesses; however, the

AFROTC curriculum alone does not train officers. The AFROTC curriculum serves as a guiding instrument for training officers in colleges throughout the nation and provides a means of insuring that all of the officers commissioned through the program receive the rudimentary training necessary to prepare them to fill the positions of Air Force officers. How well prepared these officers are, beyond the rudiments, depends on how well they can blend the derived values of the college and the AFROTC curricula.

CHAPTER V

It would be difficult to determine the need for curriculum guidance without examining the records and projected academic programs of the cadets who are now enrolled in the Air Force Reserve Officer Training Corps. This chapter is concerned with determining the deficiencies in the curricula of twenty-two advanced corps cadets who are juniors in college. These twenty-two cadets are enrolled in five different colleges: arts and science, business administration, education, engineering, and pharmacy; however, in order to make the statistics more meaningful and manageable the college major groups for the undergraduates correspond to the grouping used in preceding chapters for the graduates. The arts and science group will include six arts and science majors, four education majors, one arts and science major who is changing to education, and one pharmacy major. In most aspects these major fields show enough similarity to preclude a misrepresentation in the presentation of data; however, in the last section of this chapter the pharmacy major must be separated from the arts and science group to make the statistics more realistic.

Upon dividing the cadets into the three suggested groups, twelve of the twenty-two are in the arts and science group, two are in the business administration group, and eight are in the engineering group. Although these groups constitute a very small sampling, the consistency of certain trends seems to validate the information obtained. The

smallest and most questionable of the groups is the business administration group with only two members; however, even in this case the information received from the cadets concerned supports the information gained in the survey of officers. Furthermore, the information gained from the planned programs and transcripts of the two business administration majors directly reflects the recommendations and requirements of the College of Business Administration as outlined in the University of New Mexico Bulletin.[1] A larger sampling would have been dificult to obtain without creating considerable inconvenience and an undue workload on the university officials concerned, especially since a large portion of the data comes from the advisement copy of individual cadet's transcripts and these are kept confidential.

This chapter is divided into four main sections: (1) an explanation of the use of the Advanced Cadet Progress Record in obtaining information that has been converted to data for this portion of the study, (2) a discussion of the deficiencies noted in the technical areas of the cadet's academic programs, (3) a discussion of the non-technical deficiencies in the planned programs, and (4) consideration of the length of time required for graduation in the various colleges according to the programs planned by the cadets.

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[1]University of New Mexico, The University of New Mexico Bulletin, 1957-58 Catalogue Issue (Albuquerque, New Mexico: 1957), pp. 111-119.

I. AN EXPLANATION OF THE ADVANCED CADET PROGRESS RECORD

In order to complete a thorough evaluation of the existing strengths and weaknesses of the cadets' academic programs, twenty-two advanced corp cadets of the junior class were asked to complete the Advanced Cadet Progress Record (see Appendix D). The Advanced Cadet Progress Record is a simple form designed to aid the cadets enrolled in the advanced corps in the planning of their college curricula in order for these cadets to gain a better understanding of their university status. The Advanced Cadet Progress Record was designed by the author of this thesis specifically for experimental purposes in relation to curriculum guidance and, if it is proved to be successful, it will probably be extended at least in a modified form to all of the cadets enrolled in the AFROTC program. Although the form has been designed primarily as an instrument to be used in curriculum guidance, it also serves as a device for obtaining valuable information that may be used in research. The Advanced Cadet Progress Record used in conjunction with the advisement copy of the cadet's college transcript, posted to the completion date of his sophomore year in college, serves as the means for obtaining data for this portion of the study.

In two instances the cadets concerned are transfer students from other universities and the advisement copies of their transcripts are not available, leaving a void in total information. Another cadet who is

engaged in changing his college major and two more who feel that they will have difficulty in resolving curriculum and schedule conflicts were unable to plan their programs completely. In these cases individual interviews were necessary to complete the data. In filling in the Advanced Cadet Progress Record, cadets were instructed to make the form as nearly complete as possible and to include all required and elective courses that would be needed to fulfill the requirements for graduation in their colleges. From the Advanced Cadet Progress Record, the advisement copies of the cadet transcripts, and personal interviews, information is presented that shows deficient and adequate areas of the educational background for the various college majors that may be compared to the lists of courses that the graduates of the academic years of 1952-53 and 1953-54 recommended or reported to be useful in an Air Force career.

II. TECHNICAL DEFICIENCIES NOTED IN CADET'S ACADEMIC PROGRAMS

The technical course areas considered in this section are chemistry, engineering, electronics, mathematics, and physics. Tables XXXVI and XXXVII show the numbers of cadets according to college major group who have completed or plan to complete courses in the technical areas listed. Table XXXVI shows those cadets who have completed or plan to complete one or more courses in the designated area, while Table XXXVII shows those who will have completed two or more courses in the technical area at the time of graduation.

TABLE XXXVI

CADETS WHO PLAN TO COMPLETE
AT LEAST ONE COURSE IN TECHNICAL AREAS

Course area	A & S (12)	B A (2)	Eng (8)	Total
Chemistry	3	1	8	11
Engineering	2		8	10
Electronics			5	5
Mathematics	11	2	8	21
Physics	3		8	11

NOTE: The numbers in the columns indicate the numbers of cadets who have either completed or plan to complete at least one course in the technical areas listed above. The number shown in parentheses under each college major heading indicates the number of cadets in the group.

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TABLE XXXVII

CADETS WHO PLAN TO COMPLETE
TWO OR MORE COURSES IN TECHNICAL AREAS

Course area	A & S (12)	B A (2)	Eng (8)	Total
Chemistry	1	1	8	10
Engineering	2		8	10
Electronics			5	5
Mathematics	6	2	8	16
Physics	3		8	11

NOTE: The numbers in the columns indicate the numbers of cadets who have either completed or plan to complete two or more courses in the technical areas listed above. The number shown in parentheses under each college major heading indicates the number of cadets in the group.

Engineering majors show no deficiencies in the technical areas with the exception possibly of electronics. Five of the total eight engineering majors have either completed or plan to complete two or more courses that may be considered as being in the field of electronics. Three of these five are majoring in electrical engineering. Since the field of electronics is highly specialized, it does not seem to be surprising that only a few students within the group of twenty-two cadets have planned electronics courses in their curricula.

Of the technical course areas listed, cadets in general seem to be most adequately prepared in the field of mathematics. Twenty-one of the twenty-two cadets have planned at least one mathematics course each in their curricula and sixteen have planned two or more mathematics courses in their college programs. The only cadet who has neither completed nor plans to complete at least one mathematics course during his college attendance is one of the twelve cadets shown in the arts and science group. Since only one of the total twenty-two cadets has not programmed a mathematics course, there seems to be no serious and general deficiency in this area.

Areas which show more over-all cadet deficiencies are chemistry, engineering, electronics, and physics. The deficiency within the technical areas, other than mathematics, is fairly pronounced for the arts and science group. The two business administration majors seem also to be deficient in these same technical areas and if a larger sample were obtainable, the deficiency possibly would be more pronounced within the business administration group.

Of the fourteen arts and science and business administration majors combined, only three cadets included chemistry in their curricula, two included engineering courses, three included physics and none included electronics. The two arts and science majors who included engineering courses are both geology majors; they are required to complete two semesters of engineering courses.[2] The two geology majors are also required to complete courses in chemistry and physics; therefore, they are included in Table XXXVI among the three of the arts and science group who are shown as planning chemistry and physics courses in their curricula. In the area of chemistry, the other cadet shown is the pharmacy major, who's curricula also requires chemistry.[3] The third cadet shown as planning physics courses in his curricula is a government major who is under contract as a meterology cadet. He is required by his contract to complete at least six semester hours of credit in physics. Since the two geology majors, a pharmacy major, and one meteorology cadet may be credited with all of the listings in the areas of physical sciences shown in Tables XXXVI and XXXVII, a severe deficiency in the physical sciences seems to exist for eight of the twelve cadets included in the arts and science group.

The two business administration majors seem to be equally deficient in the physical sciences when compared to the arts and science group. Except for one of the business administration majors who lists a course in chemistry, the two business administration majors seem

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[2] Ibid., p. 241.

[3] Ibid., pp. 183-184.

to be completly deficient in the physical sciences.

In considering how many of the five technical areas listed in which each cadet will receive some preparation the engineering majors rank the highest. Engineering majors average slightly less than five of these course areas for each cadet. The arts and science and business administration majors are approximately equal in this respect with each of these groups averaging approximately 1.5 course areas in which each cadet will be prepared. The comparison of these figures may serve as an approximate index to show the difference in technical preparation between the engineering group and the two non-technical groups.

It is conceivable that not all arts and science and business administration majors will find time to complete courses in all of the technical areas listed; however, a basic understanding in mathematics and physical sciences seems to be necessary for most Air Force jobs whether the officer works directly or indirectly with a technical field. It is unlikely that more than a few non-engineering majors will be interested in or see a need for engineering or electronics courses. Furthermore, few of the non-engineering students will have the background or the time for these courses. It seems unlikely that arts and science and business administration majors would find it plausible to complete more than a total of two semesters each in the composite of physical sciences. On the other hand, even one or two semesters in any of the course areas listed would probably be very useful as background for a newly commissioned Air Force officer.

III. NON-TECHNICAL DEFICIENCIES NOTED IN CADETS' ACADEMIC PROGRAMS

In the non-technical areas considerably more courses were recommended by the graduates than were recommended in the technical areas. The listings in Tables XXXVIII and XXXIX show thirteen course areas that have been recommended by the 1953 and 1954 graduates of the AFROTC program. Again, the numbers shown in the columns represent the numbers of cadets who either have completed or plan to complete a course in the area listed.

The greatest deficiencies in the non-technical areas seem to exist for the engineering majors. This is the reverse of the high degree of adequacy found among engineering majors in the technical areas and supports similar findings cited in the previous chapter from the survey of officers. Of the eight engineering majors, two have neither completed nor plan to complete any of the non-technical courses listed in Tables XXXVIII and XXXIX. Of the remaining six engineering majors, five have programed only one semester's work and in only one of the thirteen course areas listed. The other engineering major will have completed one semester of work in each of two non-technical course areas listed. The three engineering majors who each listed a course in writing are all electrical engineering majors and are required to complete a course designated as "Informative Writing."[4]

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[4] Ibid., pp. 145-146.

TABLE XXXVIII

CADETS WHO PLAN TO COMPLETE AT LEAST ONE COURSE IN NON-TECHNICAL AREAS

Course area	A & S (12)	B A (2)	Eng (8)	Total
Accounting	3	2		5
Economics	4	2		6
English*	10	2	1	13
Government	4	2		6
History	7	1		8
Law		2		2
Language	6			6
Management	1	2		3
Philosophy	6	2		8
Psychology	8		1	9
Sociology	4	1		5
Speech	6	2	2	10
Writing	2	2	3	7

*English 1 and 2, as listed in the University of New Mexico Bulletin, are required for all students; therefore, these courses are excluded from the numbers shown in the columns above.

NOTE: The numbers in the columns indicate the numbers of cadets who have either completed or plan to complete at least one course in the non-technical areas listed above. The number shown in parentheses under the college major heading indicates the number of cadets in the group.

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TABLE XXXIX

CADETS WHO PLAN TO COMPLETE AT LEAST
TWO COURSES IN THE NON-TECHNICAL AREAS

Course area	A & S (12)	B A (2)	Eng (8)	Total
Accounting		2		2
Economics		2		2
English*	5	2		7
Government	3	2		5
History	4			4
Law		2		2
Languages	6			6
Management				
Philosophy	4			4
Psychology	7			7
Sociology	1	1		2
Speech				
Writing	1	1		2

*English 1 and 2, as listed in the University of New Mexico Bulletin, are required for all students; therefore, these courses are excluded from the numbers shown in the columns above.

NOTE: The numbers in the columns indicate the numbers of cadets who have either completed or plan to complete two or more course in the non-technical areas listed above. The number shown in parentheses under the college major heading indicates the number of cadets in the group.

Course Area	A & S (12)	( )	( )	( )
Accounting				
Economics				
English*	3			
Government	3			
History	6			
Law				
Languages	6			
Management				
Philosophy	3			
Psychology	7			
Sociology	3			
Speech				
Writing	3			

*English 1 and 2, as listed in the Undergraduate Bulletin, are required for all students; therefore, they are excluded from the numbers shown in the columns above.

NOTE: The numbers in the columns indicate the number of students who have either completed or plan to complete the course in each of the non-technical areas listed above. The number underlined in each column is the college major meeting that criterion.

Few opportunities seem to exist for engineering majors to enroll in non-technical courses other than those required. One of the engineering majors found time to include an additional English course in vocabulary building. Two engineering majors have included a speech course in their programs. Only one of the eight engineering majors has included a psychology course in his overall program. Table XXXIX shows that none of the engineering majors has completed nor plans to complete more than one semester of work in any non-technical area. It seems significant to note that all of the recorded non-technical courses are those completed during the freshman and sophomore years; none of the engineering majors lists a non-technical elective course to be completed during his junior and senior years of college. The rigidity of the engineering college curricula may be exemplified by the notation of one engineering major who programed a fifth year to enable him to complete his graduation requirements; at the bottom of the space used for the final semester in which he planned ten credit hours of courses he wrote ". . . and any other course that needs repeating."

Although arts and science majors have not all programed courses in every area listed, they seem to be much better prepared in the non-technical areas than the engineering majors. Special attention should be given to the areas of psychology and speech since these were the areas most recommended by the graduates of the AFROTC program. Eight of the twelve arts and science majors include two or more semesters of psychology. Six, or half, of the twelve cadets included in the

arts and science group have completed or plan to complete one semester of work in speech. Of the total twenty-two AFROTC cadets in the junior class, ten will have completed at least one semester in speech and nine will have completed at least one course in psychology.

The non-technical area in which cadets seem to seek the most adequate preparation is English. Thirteen of the total twenty-two cadets will have completed at least one course in English other than the fundamental courses required of all freshmen. Ten of the twelve cadets included in the arts and science group and both of the business administration majors will have completed at least one semester of English beyond the basic requirements at the time of graduation.

The area of law has been considered in the programs of only two of the total group of twenty-two cadets. These two are the business administration majors who are required to complete a course in Business Law prior to graduation.

Only six cadets of the twenty-two will have completed courses in the area of foreign languages. These six are in the arts and science college and cannot graduate without having satisfied the foreign language requirement.[5] The six other cadets who have been categorized with the arts and science group for statistical purposes are actually majoring in other related fields as it has been mentioned previously in this chapter.

The two business administration majors seem to have well-balanced

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[5] Ibid., p. 101.

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[2] Ibid., p. [illegible].

programs in nearly all of the non-technical areas; however Table XXXVIII shows a deficiency for these two cadets in the areas of foreign languages and psychology.

By using an index similar to the one used for comparing the adequacy of cadets according to college major for their degree of preparation in the technical areas, the deficiencies in the non-technical areas are also made more clear. The average cadet in the arts and science group has programed non-technical course in five of the thirteen areas listed in Tables XXXVIII and XXXIX. The two business administration majors each average the programing of ten courses in the non-technical areas, while the engineering majors average less than one non-technical course area per person in which programing has been done.

IV. A COMPARISON OF THE LENGTHS OF THE CURRICULA OF THE VARIOUS COLLEGES

It seems to be general within the university that the consensus in each department places a premium on the courses offered by that department at the expense of the student's possibile deficiency in other areas of scholastic achievement. This seems unrealistic since many agencies of employment consider the college curriculum to offer only the rudiments of the specialized field and require their new employees to undergo considerable additional plant or company education, on-the-job training, or specialized college level professional education in order to become fully qualified for their occupational

positions. The curricula within some departments have been crowded so fully with special requirements considered to be important by the faculty members of the department that in many instances a four-year curriculum has necessarily been expanded to five years to permit the average, if not the exceptional, student to complete the graduation requirements under what may be called a "normal workload."

A student enrolling at the University of New Mexico in an undergraduate program may expect to graduate with a total credit hour accumulation ranging from 124 credit hours in the College of Arts and Sciences to 175 credit hours in the Division of Architecture. The Colleges of Education and Business Administration require 128 credit hours each. More demanding are the Colleges of Pharmacy and Engineering which require 138 and 144 credit hours respectively for a four-year curriculum.[6]

A normal workload seems to involve a four-year curriculum with an accumulation of 128 credit hours for graduation, or an average of sixteen credit hours for each semester. In the case of the 144-credit-hour engineering curricula, the conceivably normal workload of 128 credit hours is exceeded by sixteen credit hours or the equivalent to one normal semester's workload. Realistically the engineering curricula should require four-and-one-half years for completion. In actuality it often does. Table XL shows that only one of the eight engineering majors will be able to complete his graduation requirements within the

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[6] Ibid., pp. 99-150.

TABLE XL

NUMBER OF SEMESTERS REQUIRED FOR GRADUATION
BEYOND THE NORMAL CURRICULUM FOR PRESENT CADETS

College major	Nine semesters	Ten semesters	Total
Arts and science (11)	2	1	3
Business administration (2)	1	1	2
Engineering (8)	2	5	7
Pharmacy (1)		1	1
Totals	5	8	13

NOTE: The number shown in parenthesis after the college major indicates the number of cadets in the group.

College major	Year	Year	Year	Year
Arts and science (12)				
Business administration (5)				
Engineering (2)				
Pharmacy (1)				
Totals				

NOTE: The number shown in parentheses after each college major indicates the number of credits in the curve.

prescribed four years. Five of the eight engineering majors will require a total of ten semesters or five full academic years to complete their graduation requirements.

At this point it seems necessary to separate the one pharmacy major from the arts and science group for a more realistic interpretation. The pharmacy curriculum, which consists of 138 credit hours, extends beyond the arts and science college requirement of 124 credit hours by fourteen credit hours, or enough to warrant an additional semester of attendance in college. The pharmacy major who is included in this group of cadets plans to spend a total of ten semesters at the University of New Mexico in order to complete all of his graduation requirements.

Although three of the remaining eleven of the arts and science group and both of the business administration majors will require more than eight semesters for graduation, compared to the engineering majors the average cadet of these two groups may expect to complete his degree requirements much sooner than the average engineering major. These relationships are also shown in Table XL. After excluding the pharmacy major from the arts and science group, eight of the remaining eleven expect to graduate within the prescribed four years.

The data presented in this chapter are not intended to be used in criticism of any of the colleges or their curricula but are intended to be used as a means of understanding the cadets' problems in regard to their curricula and the deficiencies that are likely to occur in some of the curricula more often than in other curricula.

CHAPTER VI

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Most of the officers included in this survey tend to view the Air Force as a huge business-like organization that demands of its officers, who are the executives, a vast and general educational background consisting of both technical and non-technical knowledge and experience. The needs of an Air Force officer are summed up in an explanation of the Air Force Academy curriculum. According to the Academy catalogue, the curriculum:

> . . . covers three primary areas of learning--humanities, social studies, and sciences. . . . Because the graduates will encounter a diversity of intellectual problems as an Air Force officer, the course of study has the character of both liberal arts and an engineering education. In all courses and on all occasions throughout the four years, cadets will be judged on their ability to express themselves.[1]

The needs of young Air Force officers is stressed even more by the statement of Brigadier General Don Z. Zimmerman, Dean of Faculty of the Air Force Academy, in his speech to the officers attending the Third Annual Conference of Professors of Air Science in March 1955. General Zimmerman said:

> I was surprised to learn that some of the leaders of industry are now saying that technical knowledge is a chief criterion for promotion of an employee during his first five years, and, after that, the things that count most for the promotion and advancement in those companies are basic character traits. . . . The makers of the curriculum for the Air Force Academy were thinking along

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[1]United States Air Force, "Academic Program," United States Air Force Academy Catalogue 1955-56, (United States Government Printing Office: 1955), p. 22.

> these lines when they built our curriculum, because one thing that differentiates it from the curricula of the other two service academies is more emphasis on what might be called the social, humanistic side.[2]

Certainly the AFROTC program has neither the facility nor the complete control over its cadets that would enable it to turn out officers trained to Air Force Academy specifications; however, through the recognition of the educational needs of each cadet and through the use of proper guidance, AFROTC instructors are presumed to be capable of preparing the graduates of the AFROTC program to complete successfully with the graduates of the Air Academy. Such preparation depends upon how well the AFROTC and university curricula can be integrated to give the cadet the kind of balanced academic program that will give him the educational background he will need for his duties as an Air Force officer.

The information gained from this study will serve as an aid in the development of the kind of guidance program that is necessary to train officers who can compete more favorably with the Academy graduates and who, in doing so, will be a greater asset to the nation's defense. This final chapter presents the findings of this study, the conclusions ascertained from these findings, and the recommendations for action necessary to establish such a guidance program.

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[2]Headquarters Air Force ROTC, "Address by Brigadier General Don Z. Zimmerman," Report of the Third Annual Conference of Professors of Air Science (Maxwell Air Force Base Alabama: 1955), p. 98.

The findings of this study are determined from the results of a survey of seventy-one graduates of the AFROTC program who have served two or more years actively with the Air Force. These findings fall into four main areas: (1) the occupational satisfaction of the graduates of the AFROTC program during the academic years of 1952-53 and 1953-54, (2) the socio-economic adjustment of these same graduates, (3) the attitudes of the graduates toward the college curricula as the curricula relate to preparation for the military duties of officers who have graduatedfrom the AFROTC program, and (4) the need for curriculum guidance.

I. THE FINDINGS IN THE AREA OF OCCUPATIONAL SATISFACTION

The occupational satisfaction portion of the study sets out to determine the degree of satisfaction that graduates of the AFROTC program found in performing their duties in Air Force assignments. This part of the problem is approached in four ways. The first consideration in determining occupational satisfaction views the retention-on-active-duty relationships between flying and non-flying officers. Second, the retention of officers is considered in relation to whether the officers' were assigned to duties that were consistent with their educational backgrounds. Next, the application of military experience to and the influence of military experience on civilian occupations are considered as indications of the value officers placed on such experiences. Finally, occupational satisfaction is determined through ascertaining the

numbers of officers in various categories who would rather have had other duties than those to which they were assigned.

Retention of flying officers. Flying officers tend to be more attracted to an Air Force career than are non-flying officers. Of the fourteen career officers querried, eight, or 61 per cent, are assigned to flying duty. One-third of the total flying officers, compared to only 13 per cent of the non-flying officers, intend to remain in the Air Force. Even within the flying group, a further observation can be made that seems to be significant. Pilots apparently find the Air Force more attractive as a career than do observers. Seven of a possible seventeen pilots chose Air Force careers compared to only one of a possible eight observers.

Retention of mal-assigned officers. There seems to be no relationship between the mal-assignment of officers and their desire to leave the Air Force in favor of civilian careers. By using the tetrachoric r formula to determine the relationships between mal-assigned and homogeneously assigned officers and their desires to leave or remain in the Air Force a coefficient of correlation of .006 is obtained, which indicates that there is no discernable relationship.

This part of the study shows that arts and science majors are most difficult to place in Air Force positions that make the best use of their educational backgrounds. Twelve of the nineteen, or 63 per cent, of the arts and science majors who left the Air Force were mal-assigned. Business administration majors are more easily placed.

Only three, or 19 per cent, of the sixteen non-career business administration majors were mal-assigned. Engineering majors were probably the most homogeneously assigned of all officers included in the survey. Even though three engineering majors, or 20 per cent, of the total fifteen in the non-career category were assigned to duties bearing no relation to their college majors, all engineering majors were assigned to duties of a technical nature that require extensive technical education.

The value of military experience. Most of the officers who returned to civilian status reported that their military experience had been beneficial either directly or indirectly to their civilian occupations. Only three of the forty-seven inactive officers reported that their military experience was of little use and only one reported that he had found no application of his military experience to his civilian occupation. Apparently, service experience had little if any influence on civilian occupational goals of these college graduates. In only two cases there seem to be indications that the Air Force duties of the individuals concerned had much to do with changes in occupational goal. One of these officers was a pilot who changed his major from industrial arts engineering to electrical engineering upon his return to college, after completing his service tour, probably because of the electrical systems with which he needed to work in the modern bomber type of aircraft that he flew. The other officer, a geology major, returned to civilian status and college life to take up the study of mechanical engineering after having been assigned in the Air Force as an Automotive Maintenance Officer.

A considerably high number of officers who left the Air Force have returned to college. It is doubtful that Air Force experience had any bearing on this decision in most cases; however, there is a possibility that the time these officers spent in the Air Force may have given them additional time to consider the needs of their civilian careers. Fourteen of the forty-seven inactive officers, nearly 30 per cent, are now enrolled in colleges and universities. Nine of these officers are arts and science majors, three are engineering majors and two are business administration majors.

Preferred duties. Fifteen officers of the forty-seven who left the Air Force would rather have performed duties other than those of their assigned positions. One officer was dissatisfied with his assignment but uncertain about what he would rather have done. Nine of the inactive arts and science majors would have preferred other positions. Four of these nine were extremely mal-assigned in relation to their college majors. On the other hand, not all of the duties preferred were consistent with the major fields of the officers concerned. Some of the non-realistic preferred duties contrasted to college majors are: anthropology--Intelligence Officer, geology--Photo-Radar Intelligence, and history--Information Services Officer. These and many other arts and science majors are difficult to place in Air Force duties that require their specific educational backgrounds.

Business administration and engineering majors were far less inclined to prefer duties other than those of their assignments. No

doubt this is because they are generally more homogeneously assigned than the arts and science majors. Three of the sixteen inactive business adminstration majors preferred other duties. Two of these were mal-assigned officers (of a total of three business administration majors who were mal-assigned). Four engineering majors preferred other duties, two of whom were pilots and would have each preferred a ground position of Installations Engineer. The preferences of these two pilots indicate that not all flying personnel are satisfied with flying duties.

II. THE FINDINGS IN THE AREA OF SOCIO-ECONOMIC ADJUSTMENT

This part of the study investigates the social and living factors that conceivably could affect an officer's decision to remain in the Air Force or return to civilian status. This portion of the study is concerned with three main areas that include important influencing factors toward or against an Air Force career. These main areas are: financial factors, job factors, and social factors. In addition to these main factors, consideration is given to miscellaneous factors that may bear heavily on certain individuals' decisions to leave the Air Force and are of great intensity to the person concerned.

Financial factors. The financial factors considered in this survey are: financial security, home ownership, and pay differential.

Financial security was a reason of great importance for only six of the forty-seven inactive officers for leaving the Air Force.

The least concerned over financial security were the non-flying officers who were mal-assigned.

Home ownership seems to be of equal importance to the different groups of officers. It was of little significance to ten officers and of great significance to nineteen officers.

The pay differential was of least concern to flying officers, who receive additional pay for flying duty. None of the flying officers felt that the pay differential was a significant reason for leaving the Air Force. Most concerned over the pay differential were the non-flying business administration and engineering majors; however, the difference is not so great that the reader should crystalize this observation as being fact. It seems reasonable, however, that the nation's industrial expansion has created a demand for managerial and technical capabilities that leave many openings that attract business administration and engineering majors to civilian occupations.

Job factors. The job factors are: advancement opportunity, job interest, occupational prestige, and the type of duty performed.

Advancement opportunity, the first of these four factors, was checked most frequently, of all factors in this study relating to the socio-economic adjustment of officers, as being the most significant reason for leaving the Air Force. Twenty-five of the forty-seven officers who left the Air Force felt that advancement opportunity was of great significance. Most concerned over advancement opportunity were the business administration majors, engineering majors, and the

flying officers. The opinions of arts and science majors on this factor are evenly distributed.

Job interest seems to be of more concern to the non-flying arts and science majors than it is to other groups. Eight of eleven included in this group felt that job interest was of great significance. Half of the mal-assigned officers compared to 37 per cent of the homogeneously assigned officers felt that job interest was of extreme importance as a reason for leaving the Air Force. This shows that homogeneous assignment in itself is not necessarily a criterion for determining job interest.

Occupational prestige was of little concern to most officers and was of least concern to flying officers. Only six of the total forty-seven officers who left the Air Force were greatly concerned over occupational prestige.

The type of duty performed was of moderate importance to most officers, but of most importance to mal-assigned officers. Eight of the twelve mal-assigned officers considered the type of duty performed to be of great importance compared to only three of twenty-four homogeneously assigned officers who felt similarly.

Social factors. The social factors considered in this survey are: the military way of life, social life in the military service, living near home, and relocation or moving.

The military way of life was of great concern to about one fourth of the officers who left the Air Force. Little difference is apparent among groups.

Social life is the least significant factor in the formulation of a decision to leave the Air Force. Only one of the forty-seven inactive officers checked it as a reason of great importance.

Living near home was of great importance to only four of the forty-seven officers. Conversely, thirty-two of the forty-seven officers were very little concerned about living near home.

Relocation is as distasteful for one group as another. Twenty-one of the forty-seven total officers feel that moving is a factor of great significance compared to eighteen who feel that it is of little significance.

Career officers, in deciding to remain in the Air Force, selected job interest, variety of assignment, travel experience, and retirement benefits as the most important factors influencing their decisions. Other factors such as advancement, financial security, fringe benefits, military way of life, occupational prestige, pay differential, and social life were about equal in consideration with the exception of pay differential, which was checked as little concern to the non-flying career officers.

The marital status of the officer seems to have some effect on his being satisfied with a military career. Of the fifty-three non-career officers, active and inactive, thirty-six are married. Fourteen of the thirty-six married, non-career officers have wives who did not like the Air Force. Twelve of the fourteen career officers are married and of the twelve wives of the career officers only two did not like the Air Force. In comparison, 39 per cent of the non-career officers

who were married had wives who did not like the Air Force and only 17 per cent of the career officer's wives felt similarly.

Isolated factors of great concern to some officers were improper schooling for children, poor working conditions, "uninspiring" fellow workers, parental obligations, inadequate housing, separation from one's wife, and the lack of an opportunity to fly as much as one would like.

III. THE FINDINGS IN THE AREA OF COLLEGE CURRICULA

The officer training of the AFROTC cadet consists of three main areas which are the cadet's college curriculum, the AFROTC curriculum at the university, and the four weeks of intensive training the cadet receives at a permanent Air Force base during the summer between his junior and senior years of college. This part of the study ascertains what courses the graduates felt were the most beneficial as aids to the performance of their military duties, the courses they felt that they should have taken to aid them in their Air Force duties, and the courses that they would recommend to an undergraduate who will be commissioned through the AFROTC program. A final section of this part of the study is concerned with an analysis of the AFROTC curriculum in regard to its ability to prepare cadets for service as Air Force officers.

The most beneficial courses. The courses that graduates felt were the most beneficial depended very much upon the assignment of the officer and the broadness of his undergraduate major. The most broadly distributed course areas are found among the arts and science majors.

Fourteen, or half, of the twenty-eight arts and science majors listed courses in their major fields as being very beneficial in the performance of their Air Force duties. Eight arts and science majors found technical courses outside their majors to be beneficial and ten found other non-technical courses to be very worthwhile.

Business administration majors were more inclined to favor courses in their own field when listing the most beneficial courses they had taken. Eighteen of the total twenty-two business administration majors listed courses in their major field of study as being the most beneficial. Ten business administration majors felt that other non-technical courses were especially beneficial and only one business administration major listed other technical courses as being very helpful.

Engineers restricted their listings even more to their major fields of study. Eighteen of the total twenty-one engineering majors listed engineering courses in their specific majors as being the most useful courses they had taken. None of the engineering majors listed other technical courses and only two listed other non-technical courses. A review of the University of New Mexico college catalogue for the academic year of 1957-58 reveals that engineering colleges are much more restrictive in their allowance of elective courses outside of the technical areas.

Curriculum deficiencies. Most officers found that certain courses that they had not taken would have been beneficial to them in the performance of their Air Force duties.

Of the twenty-eight arts and science majors, nine felt a need

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for additional technical courses aside from their majors; fifteen desired other non-technical courses; and none indicated a need for additional courses in his specific major.

Fourteen of the twenty-two business administration majors listed needs for additional courses and of these fourteen officers only three listed a need for additional courses in their major field. Six business administration majors felt that they should have taken more courses in the additional technical area and five felt that additional non-technical courses would have helped.

Eleven, or half, of the engineering majors listed no additional courses that would have been helpful in the performance of their duties. One engineering major listed a technical course other than in his major field and the remaining nine who listed courses all desired additional non-technical education. This indicates that engineering majors have sufficient technical background for most Air Force positions, and apparently a greater need for non-technical education than arts and science or business administration majors.

Recommended courses. In recommending courses for undergraduates who are enrolled in the AFROTC program, the officers who were querried suggested well-balanced programs that include both technical and non-technical courses.

Arts and science majors recommended technical and non-technical courses impartially as a group, with seventeen of the twenty-eight total recommending technical and seventeen recommending non-technical courses. (The reader should realize that the same officer was permitted to list

courses in more than one area for this to be possible). Five arts and science majors seem to be influenced by their own Air Force duties when recommending courses for undergraduates. Only one arts and science major recommended a course in his major field.

Business administration majors saw a greater need for non-technical courses than technical courses, with seventeen recommending the non-technical courses compared to seven who recommended technical courses. Five business administration majors recommended courses in their major field. One officer in this group seemed to be influenced by his specific Air Force assignment.

Four engineering majors recommended courses in their major fields. The remainder of courses recommended by engineering majors are almost balanced between technical and non-technical areas, with eleven of this group recommending technical and ten recommending non-technical courses.

The most often recommended of courses is in the area of psychology. Although only seven listed this course area, it seems significant since all responses to this part of the questionnaire were voluntary responses as opposed to forced choice. Speech seemed to be the next most recommended course area, with six officers including it as a very worthwhile area for the preparation of undergraduates.

Evaluation of the AFROTC curriculum. The responses of graduates in regard to the AFROTC curriculum can be divided conveniently into seven general areas as follows: (1) indoctrination for commissioned service, (2) flying indoctrination and background courses, (3) leader-

ship training, (4) military training, (5) organization and management, (6) personnel and administration, and (7) specialized courses. The specialized courses include administration, communications and supply.

Sixteen of the respondents felt that the AFROTC curriculum was weak and another three officers felt that the quality of instruction was poor. Two officers felt that the indoctrination program for commissioned service was weak and two more officers felt that it could be more extensive. Four officers felt that there was not enough leadership training included in the AFROTC curriculum. Six officers felt that they should have had more military training and two more officers felt that the military training that they had received had been weak. Four more officers desired more organization and management and five officers would have liked additional training in personnel and administration. Three officers felt that what little training that had been given in personnel and administration was weak. Two officers thought that too much emphasis had been placed on flying indoctrination courses as opposed to two officers who felt that more emphasis should have been placed upon the flying aspects of the Air Force. One officer felt that the flying indoctrination courses that were offered were weak. Two officers felt that too much time had been spent on specialized courses and that the program should have been more general. One officer would have liked more specialized training, while three officers thought that the specialized training they had received was weak and unnecessary.

The bulk of the complaints of these officers lie chiefly in the area that may be thought of as the officer development part of the AFROTC

program. This area is made up of leadership training, military training, organization and management, and personnel and administration. Nearly all of these misgivings have been corrected through the implementation of the Generalized Curriculum. The AFROTC curriculum in itself appears to have no serious weaknesses; however, better integration with the university curricula seems possible and necessary.

IV. THE FINDINGS THAT POINT UP THE NEED FOR CURRICULUM GUIDANCE

Although a study of the graduates of the AFROTC program can show the direction in which the needs of young officers tends to move, the real need for curriculum guidance must be ascertained through an evaluation of the existing curriculum situation at the university. This can be done only through an evaluation of the curricula of the cadets who are now participating in the program. Of the total twenty-two cadets who's curricula were evaluated no more than two seem to be following a program that provides sufficiently for a basic and fairly broad background in the technical and non-technical areas that will probably aid them most when they become Air Force officers.

The findings that point up the need for curriculum guidance may be placed under three main headings: (1) the technical deficiencies noted in the cadets' academic programs, (2) the non-technical deficiencies that are prevalent in the cadets' programs, and (3) the need for a more realistic approach to the length of the curricula for the various colleges.

Technical deficiencies. The technical course areas considered for this study are chemistry, engineering, electronics, mathematics, and physics, which are the courses that were recommended by the graduates of the classes of 1952-53 and 1953-54.

The cadets who are majoring in engineering appear to be well prepared in the technical areas, while the arts and science majors are somewhat deficient. An index has been prepared to show these relationships. Of the five course areas, cadets majoring in engineering have programed an average of 4.6 of these areas each, while the arts and science and business administration groups are approximately equal with the cadets having programed 1.5 of the areas each.

Non-technical deficiencies. Thirteen non-technical course areas are considered in this part of the study. They are accounting, economics, English, government, history, law, language, management, philosophy, psychology, sociology, speech, and writing. These are the non-technical course areas that were recommended by the graduates of the classes of 1952-53 and 1953-54.

The engineering cadets seem to be as severely deficient in the non-technical areas as they were strong in the technical areas. The two business administration majors are the more adequately prepared in this field than either the arts and science majors or the engineering majors. By using a similar index to the one used for showing the relationships in the technical area, the relationships in the non-technical areas may be seen more clearly. Of the thirteen course areas listed,

business administration majors on the average are prepared in ten course areas, arts and science majors each average preparation in five course areas, and the engineering majors on the average are prepared in less than one non-technical course area each.

The length of curricula. The length of the four year curriculum varies in credit hours from college to college. The arts and science curricula are shortest with 124 credit hours required for graduation. The colleges of Business Administration and Education each require 128 credit hours for graduation, while the College of Pharmacy requires 138 and the College of Engineering requires 144 credit hours for the baccalaureate degrees.

The lengths of the curricula do not seem realistic since some colleges require as much as the equivalent to a full semester's work-load more than other colleges. Of the eight engineering majors, only one will be able to graduate within the prescribed four years. The pharmacy major will require ten full semesters for graduation, which is two semesters beyond the prescribed curriculum. With the pharmacy major removed from the arts and science group, nine of the remaining eleven of the arts and science group will graduate within the prescribed four years. No reason seems apparent for the additional length of time that will be necessary for the business administration majors to complete their graduation requirements and since there are only two in this group it would be unwise to make assumptions that are too positive.

V. THE CONCLUSIONS

Much of the data obtained through this study concerns very small groups; therefore, the data should be treated as though they are indications rather than generalization. In some cases, with other known data, current observation, and empirical verification, some fairly positive trends can be ascertained. These trends form a tentative basis upon which a functional guidance program can be built. The following paragraphs present the conclusions that seem to be the most reliable for the basis of such a program. The conclusions are presented in the order of occupational satisfaction, socio-economic adjustment, and the college curricula.

Occupational satisfaction. In determining occupational satisfaction, it should be considered that many officers may be well satisfied with their military duties but still prefer the civilian way of life. On the other hand, the drafter of a curriculum guidance program should also realize that many officers who left the Air Force actually liked military service very well. A curriculum guidance program for the AFROTC program should make such information readily available for those university students who are enrolled in, or plan to enter, the AFROTC program. Certainly, every cadet should not be considered as a potential "thirty year man." Every cadet should, however, be considered as a potential citizen who is ready to do his part in defending his country and as a possible career officer, active reservist, or staunch community leader who believes in his country and is especially familiar

with the problems of national defense and of the armed forces. It is well, therefore, to know approximately how many of the AFROTC graduates will remain in the Air Force, and what background these officers should have if they intend to remain in the Air Force, The following statements provide such information.

1. Flying officers seem more inclined than other AFROTC graduates to remain in the Air Force as career officers.

2. Pilots seem more inclined to choose an Air Force career than observers.

3. Mal-assignment in relation to the officer's college major seems to have little bearing on career retention.

4. Most of the officers who prerer duties other than those to which they are assigned tend to be in the arts and science group.

5. The most mal-assigned of all officers included in the survey tend to be the arts and science majors.

6. Because of the technical nature of many Air Force assignments, engineering majors tend to be easy to assign homogeneously.

7. Business administration majors seem easy to assign because most officer assignments require some degree of administrative and management background.

8. Thirty per cent of the officers included in the survey who left the Air Force have returned to college. A considerable number of the officers who leave the Air Force, conceivably, do so because they desire to continue their education.

9. From the statistics of this survey, about one-third of the officers who leave the Air Force seem dissatisfied with their assigned duties and would rather have had other assignments.

10. Most officers who return to civilian status seem to find that their military experience is of considerable value, either directly or indirectly, regardless of whether they have been mal-assigned or homogeneously assigned.

Socio-economic adjustment. In this study, eleven specific socio-economic factors are investigated in the consideration of the officer's adjustment to military life. The eleven factors are divided into three main areas which are: financial factors, job factors, and social factors. These factors are listed according to the three main areas.

The financial factors include security, home ownership, and pay differential. Conclusions in the area of financial factors are listed as follows:

1. Financial security in the Air Force seems to be favorable to most of the officers included in this survey whether they are career or non-career officers.

2. Mal-assigned arts and science majors seem the least concerned of any of the groups studied in regard to financial security.

3. Home ownership seems to be an important factor to nearly half of the officers who leave the Air Force according to the sampling of this survey; however it seems more of an additional than a primary reason for leaving military service.

4. Least concerned over the difference in pay between military and civilian occupations seem to be flying officers.

5. The most concerned over the pay differential seem to be the business administration and engineering majors.

Job factors include advancement opportunity, job interest, occupational prestige, and the type of duty performed, Conclusions in regard to job factors are:

1. Advancement opportunity seems to be of the greatest concern to the group of officers as a whole of all factors listed in the area of socio-economic adjustment.

2. The most concerned over advancement opportunity appear to be business administration majors, engineering majors, and flying officers.

3. Job interest seems of most concern to non-flying arts and science majors. Apparently these officers are more concerned with the areas of activity outside their assigned duties and possibly become bored with the routiness of their jobs.

4. Since 37 per cent of the homogeneously assigned officers who left the Air Force felt that job interest was significant for returning to civilian status, it is apparent that homogeneous assignment is not necessarily a criterion for determining job interest.

5. Since occupational prestige seems to be of little concern to most officers who leave the Air Force, it is apparent that most officers are satisfied with the prestige of their status.

6. The type of duty performed seems to be of greatest importance, as a reason for leaving the Air Force, to mal-assigned officers.

Social factors include the military way of life, social life in the Air Force, living near home, and relocation or moving. The conclusions established in relation to the social factors of military service are:

1. The social demands and protocol of the military service seems to have little effect on most officers' decisions to return to civilian status. Only one officer of forty-seven who returned to civilian status felt that social life in the Air Force and the military way of life were important reasons for leaving the Air Force.

2. Living near home seems to be of little concern to most AFROTC graduates from the University of New Mexico. A speculation seems in order in regard to this statement. The speculation is that many of the residents of the state of New Mexico, and consequently the college students of this area, have moved into the state in recent years with the result that many of the graduates of the two classes surveyed do not have the home ties that university students may have in other areas.

3. Nearly half of the officers who left the Air Force felt that the continual relocation of one's domicile is an important reason for returning to civilian status.

4. Over one-third of the graduates who leave the Air Force seem little concerned over relocation.

Additional factors of importance to the conclusions of this study in regard to socio-economic adjustment are the factors that help to convince officers that the Air Force offers an attractive career. The following conclusions delineate the factors that contribute the most toward influencing an officer to remain in the Air Force.

1. Career officers seem more interested in the Air Force specialties to which they are assigned than similar groups of non-career officers.

2. Career officers tend to enjoy a variety in their assignments and their duties.

3. In further consideration of the two preceding statements, it may be further concluded that career officers tend to have broader interests than officers who prefer civilian occupations, and that these broader interests enable them to fit well into most Air Force assignments.

4. Career officers, as a group, tend to enjoy travel experience.

5. Security in the form of retirement benefits offers a strong incentive for the officers who decide upon an Air Force career.

6. Service life is generally more agreeable to the wives of career officers than it is to the wives of non-career officers.

7. Very often an officer may enjoy service life but feel obligated to return to civilian status for intense personal reasons.

The college curricula. The conclusions derived from this portion of the study are concerned with the integration of the college curriculum of each officer into his composite educational background. The conclusions are based on the opinions of the graduates of the AFROTC program in

regard to the courses that they felt they should have taken, and courses that they would recommend to undergraduates who will be commissioned through the AFROTC program. The following statements are conclusions that have been drawn from evaluation of the officer's attitudes toward their curricula.

1. The ecucational interests of arts and science majors are generally broader than business administration majors' and engineering majors' interests.

2. The engineering curricula seem much more restrictive than either the arts and science or business administration curricula, permitting less free elective courses to be completed.

3. Arts and science majors and business administration majors tend to be more deficient in technical areas than engineers.

4. Engineering majors seem deficient in non-technical areas.

5. Most officers recognize the deficiencies of their college majors and recommend well-balanced programs for undergraduates to include both technical and non-technical courses.

6. In the technical area, basic mathematics and physics courses seem to be important to nearly all Air Force officers.

7. In the non-technical area, psychology, speech, and management courses are apparently essential to officer development.

The AFROTC curriculum. The AFROTC curriculum, in itself, seems to have no serious weaknesses. The areas that have received the greatest criticism from the graduates have been corrected through the implementation of the Generalized Curriculum. On the other hand, it should not be assumed that there is no need for improvement in the AFROTC program. This study merely shows an indication that the present AFROTC curriculum for the present Air Force needs seems to be adequate.

The need for Curriculum Guidance. A review of the records and plans of twenty-two advanced corps cadets who are members of the junior class reveals that there are deficiencies within the college curricula that warrant a curriculum guidance program. The conclusions derived from an analysis of the cadets scholastic records, their planned programs, and the requirements of their colleges are:

1. Those cadets who major in the arts and sciences and related colleges seem to be adequately prepared in the non-technical course areas that have been recommended by the graduates of the AFROTC program.

2. Cadets majoring in the arts and sciences and related colleges are somewhat deficient in the technical course areas recommended by the graduates.

3. Engineering majors are adequately prepared in the technical course areas.

4. Engineering majors are dificient in the non-technical course areas.

5. Many of the presently prescribed four-year curricula within the various colleges at the University of New Mexico are unrealistic in the total credit hour requirements, since most of the cadets who are enrolled in the colleges that require the most credit hours for graduation will attend college for one to two semesters more than that prescribed in the curricula.

V. THE RECOMMENDATIONS

In order to help the cadet in preparing himself for his future service with the Air Force, a curriculum guidance program is necessary. This program must make the best use possible of the entire educational facility available to the cadet. Such a program requires the integration of all educational activities and accomplishments of the cadet into the composite of his preparation to become an officer. The AFROTC

instructors and staff advisors who work with the cadet in this advisement program must keep in mind the possibility that each cadet will gain from the AFROTC program, the college curriculum, and his active service as an officer the experience that may be a great asset to him throughout his life, whether he accepts the Air Force as his career or returns to civilian status. The first recommendation, therefore, is that the AFROTC detachment at the University of New Mexico adopt a curriculum guidance program for the AFROTC cadets.

A second recommendation is that the curriculum guidance program consider the needs of each cadet according to his college major and that the AFROTC staff advisors point out to the cadet any deficiencies that may exist in his planned curriculum. Such guidance should give adequate attention to both technical and non-technical elective courses. Cadets should be given freedom to select elective courses without redress from AFROTC staff advisors; however, advisors should bring to the attention of the cadet that the technical aspects of most Air Force duties require at least a fundamental understanding of mathematics and physical sciences, and that the non-technical areas of the cadet's education should provide him with a background in the area of interpersonal relations. The most beneficial non-technical courses that should be recommended to cadets are in the areas of psychology, management, and public speaking.

The third recommendation is that curriculum guidance be started at the beginning of the freshman year of college and be continued

through all four years. Regular class sessions throughout the four years should be set aside to discuss the relationships between career opportunities in the Air Force and college background courses for these careers. The social aspects of military service should be brought into this phase of curriculum guidance. Social protocol, intellectual interests, recreation and world travel should be discussed since an officer's social conduct is as much a part of his duty as his day-to-day job. It should be pointed out that in addition to flying, officers in the Air Force discuss such subjects as art, literature, government, history, economics, and philosophy on a fairly high intellectual plane.

Next, the cadet should be shown how his AFROTC curriculum is actually a part of his college curriculum. The credits he earns through AFROTC courses count toward his degree requirements. AFROTC credits are counted as a minor in the arts and science colleges. In the engineering colleges they may be counted as technical electives. AFROTC courses should not be considered as an adjunct to the college curriculum. They serve not only to indoctrinate the cadet militarily, but help to broaden his entire educational outlook. The curriculum guidance program must integrate all of the educational activities of the cadet to prepare him for his duties as an Air Force officer and a citizen in a democracy.

Finally, curriculum guidance must be accepted whole-heartedly by the AFROTC staff. Staff members must realize the purpose and intent of the curriculum guidance program. The program must be conducted in such a way that it will not tend to favor one college over another or create friction between colleges, but conducted so that it makes the

best use of all of the university's facilities. Such a program requires close co-ordination between the AFROTC instructional staff and the members of other departments of the university. The consultation with university professors should help the AFROTC instructors in determining what courses that are offered by the various departments will be the most complimentary to the AFROTC curriculum and will be the most useful with respect to officer development.

The curriculum guidance program does not constitute a final solution for the adjustment problems of all young officers who are about to enter the Air Force; however, it can serve as a guide for the AFROTC instructors. The program can serve to make AFROTC instructors more alert in the recognition of problems that relate to the socio-economic adjustment of the future officers who sit in their classes. Further study and research must be conducted to validate the conclusions of this study and to detect any false assumptions. To function successfully, the guidance program must be constructed in such a way that it can grow with continued educational discovery and research.

In the area of research, an additional recommendation is made that follow-up studies be continued in order to keep detachment staff personnel informed in regard to the needs of future graduates of the AFROTC program. It is recommended that as much information be obtained as possible through direct interview with the graduates. Direct interview may be difficult; however, if questionnaire letters also invite the graduates to participate in the interview, it is anticipated that enough will respond to add a valuable source of information.

The questionnaire seems to be adequate in its generic coverage of areas that can affect an AFROTC graduate's service as an Air Force officer; however, if the survey is repeated, more specific information should be obtained in the areas of both the AFROTC and the university curricula. Additional information should be sought especially in the area of guidance as it relates to the college and AFROTC curricula.

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APPENDIX A

INTRODUCTORY AND FOLLOW-UP LETTERS

Introductory letters, accompanied by the questionnaire, were mailed during the month of October 1957. During approximately the next one and one-half months a steady flow of responses seemed to suggest the advisability of withholding the mailing of follow-up letters. The follow-up letters were mailed during the latter part of the month of November 1957.

Care was taken to show the officers included in the survey that the detachment was truly interested in them personally. Each letter was addressed individually, even though time limitation dictated that the body of the letter should be duplicated. It was predicted that each officer would have been promoted to the grade of first lieutenant either in the reserve or active service and it was known that none of these officers, under present regulations, could possibly have been promoted higher than first lieutenant; therefore, the officer's full name and military rank were used along with the known home address at the time he left the University of New Mexico AFROTC detachment. All letters were signed individually. Blue-black ink was chosen to seem business-like and yet not too impersonal.

To impress the recipients of these letters with the importance of the information sought, The University of New Mexico Guidance department, with the consent of Dr. George L. Keppers, acted as a co-sponsor of the project. Official titles are used to show authenticity.

DEPARTMENT OF AIR SCIENCE
AFROTC DETACHMENT NR. 510
THE UNIVERSITY OF NEW MEXICO
Albuquerque, New Mexico

8 October 1957

1st Lt. Reginald Q. Zilch
General Delivery
Albuquerque, New Mexico

Dear Lieutenant Zilch:

The enclosed questionnaire is part of a survey being conducted by the University of New Mexico, Air Force ROTC detachment in conjunction with and under the supervision of Dr. George L. Keppers of the University's Guidance Department. The information obtained will be used by the AFROTC detachment to evaluate curricula, instructional, and motivational factors and by the Guidance Department for its occupational informational value.

We are extremely interested in how service with the armed forces affects or changes occupational interests and outlooks of college graduates.

If you are still serving on active duty, please fill in the questionnaire marked Active Duty Officer Questionnaire and if you have returned to civilian status, complete the questionnaire marked Inactive Officer Questionnaire.

We appreciate your cooperation and feel that your assistance will be of great value to both the University of New Mexico and the Air Force. All information will be kept confidential; your name on the questionnaire serves only to help us identify those who do not respond or cannot be located.

Sincerely,

Charles F. Gieswein

CHARLES F. GIESWEIN
Captain, USAF
Adjutant

DEPARTMENT OF AIR SCIENCE
AFROTC DETACHMENT NR. 510
THE UNIVERSITY OF NEW MEXICO
Albuquerque, New Mexico

20 November 1957

1st Lt. Reginald Q. Zilch
General Delivery
Albuquerque, New Mexico

Dear Lieutenant Zilch:

Several weeks ago, we mailed a questionnaire to the address we have on file as your permanent address at the time you left the University of New Mexico AFROTC unit. It is very probable that this questionnaire never reached you. Because of the importance of the information we seek, we are sending another questionnaire.

The enclosed questionnaire is part of a survey being conducted by the University of New Mexico, Air Force ROTC detachment in conjunction with and under the supervision of Dr. George L. Keppers of the University's Guidance Department. The information obtained will be used by the AFROTC detachment to evaluate curriculum, instructional, and motivational factors and by the Guidance Department for its occupational informational value.

We are extremely interested in how service with the armed forces affects or changes occupational interests and views of college graduates.

If you are still serving on active duty, please fill in the questionnaire marked Active Duty Officer Questionnaire and if you have returned to civilian status, complete the questionnaire marked Inactive Officer Questionnaire.

We appreciate your cooperation and feel that your assistance will be of great value to both the University of New Mexico and the Air Force. All information will be kept confidential; your name on the questionnaire serves only to help us identify those who do not respond or cannot be located.

Sincerely,

Charles F. Gieswein

CHARLES F. GIESWEIN
Captain, USAF
Adjutant

APPENDIX B

SAMPLE QUESTIONNAIRE

In order to obtain all of the information desired, two pages were used in the questionnaire. In making up the questionnaire, it had been anticipated that some of the information sought from active officers should be different from the information sought from inactive officers; therefore, the first page of the Active Duty Officer Questionnaire differs in some respects from the first page of the Inactive Officer Questionnaire. The second pages of all questionnaires are exactly alike.

The first page of the Active Duty Officer Questionnaire is shown on page 153 and the first page of the Inactive Officer Questionnaire is shown on page 154. The second page for both the Active Duty Officer Questionnaire and the Inactive Officer Questionnaire is shown on page 155.

ACTIVE DUTY OFFICER QUESTIONNAIRE

NAME:_____ RANK:_____

College major:_____ Class:_____

Date entered active service:_____ Date of Separation:_____

Primary AFSC:_____ Present Duty AFSC:_____

AFSC of most experience:_____ Months served in this AFSC:_____

AFSC of the job or position you liked best:_____

AFSC or title of any job you would rather have:_____
(Note: If you do not recall AFSC, identify job by title or description.)

Do you intend to make the Air Force your career? __yes __no __undecided.

Of the following, indicate by checking under L, S, or G. which were of little, some, or great significance toward influencing your decision to remain in or leave the Air Force. Compare military to civilian opportunities.

	L	S	G		L	S	G
Pay differential	___	___	___	Advancement opportunity	___	___	___
Job interest	___	___	___	Retirement benefits	___	___	___
Social life	___	___	___	Occupational prestige	___	___	___
Travel experience	___	___	___	Military way of life	___	___	___
Financial security	___	___	___	Variety of assignment	___	___	___
Fringe benefits	___	___	___	Living near home	___	___	___

OTHER:

	L	S	G
_____	___	___	___
_____	___	___	___
_____	___	___	___
_____	___	___	___

PAGEWISE BOND
SOUTHWORTH CO.

INACTIVE OFFICER QUESTIONNAIRE

NAME:_____ RANK:_____

College major:_____ Class:_____

Date entered active service:_____ Date of Separation:_____

Are you now participating, or do you intend to participate in an active reserve program? ___yes ___no

What is your present job or position?_____

Is this your intended life's work? ___yes ___no A progressive step toward your life's work? ___yes ___no

If not, what would you rather do? _____

Of what value was your service experience to your life work?
___none ___very little ___some ___much ___directly in the same field.

While on active duty, what was your primary AFSC? _____ Last duty AFSC?_____

AFSC of job or position you liked best:_____

AFSC of most experience:_____ Months served in this AFSC:_____

AFSC of job or position you would rather have had:_____
(Note: if you do not remember the AFSC, identify job by title or description)

Of the following, indicate by checking under L. S, or G which were of little, some, or great significance in your decision to leave the Air Force. Compare military opportunities with civilian opportunities.

	L	S	G		L	S	G
Pay differential	___	___	___	Advancement opportunity	___	___	___
Job interest	___	___	___	Occupational prestige	___	___	___
Financial security	___	___	___	Living near home	___	___	___
Home ownership	___	___	___	Relocation (moving)	___	___	___
Social life	___	___	___	Type of duty performed	___	___	___
				Military way of life	___	___	___

OTHER:

	L	S	G
_____	___	___	___
_____	___	___	___

NAME: _____

College major: _____

Date entered active service: _____

Are you now employed, or in pro-
to participate in a new career?

What is your present job or position?

Is this your life-
tended life to work?

If not, what would you rather do?

Of what value was your military
___none ___very little ___some ___much ___great

While on active duty,
what was your primary duty?

AFSC of job or position you held:

AFSC of most experience:

AFSC of job or position you would prefer to
(Note: If you do not have such a AFSC,

Of the following, indicate by number
little, some, or great importance to you
Pure. Compare with your other

Pay differential

Job interest

Financial security

Home ownership

Social life

OTHER:

Are you: ____married? ____single?

If married, did your wife like service life? ____yes ____no

If you served overseas, in what country or theater? _____

Date departed the ZI: _____ Date returned to ZI:_____

If married, did your wife accompany you? ____yes ____no

Did your wife like overseas service? ____yes _____no

1. Which of your college courses (other than AFROTC) helped you most in the Air Force?

2. What, if any, additional courses do you feel you should have taken to aid you in your service career?

3. What university courses would you recommend to an undergraduate who will be commissioned in the Air Force?

4. What, if any, areas of the AFROTC curriculum seemed weak or inadequate?

REMARKS:

APPENDIX C

COMPUTATION OF TETRACHORIC r COEFFICIENT OF CORRELATION

	Career	Non-career	Totals
Homogeneously assigned	10 (b)	40 (a)	50 p = 73%
Mal-assigned	4 (d)	13 (c)	17 q = 27%
Totals	14 q' = 21%	53 p; = 79%	67 100%

$p = .73$, $q = .27$, $a = .23$ $\qquad$ $p' = .79$, $q' = .21$, $a = .25$

$x = -.613$ $\qquad$ $x' = .675$

$z = .331$ $\qquad$ $z' = .318$

$$\frac{ad - bc}{N^2 z z'} = r + \frac{xx' r^2}{2}$$

$$\frac{40.4 - 10.13}{(67)^2 (.331) (1318)} = r + \frac{(-.613)(.675) r^2}{2}$$

$$\frac{160 - 130}{4489 (.331) (1318)} = r + \frac{(-.413775) r^2}{2}$$

$$\frac{30}{472.50316} = r + (-.2063875) r^2$$

NOTE: The values for x, x', z, and z' are obtainid from statistical tables found in Henry E. Garett's book, Statistics in Psychology and Education, Longmens, Green and Company, New York, 1947, page 351.

$$.0635 = r + (-.2063875)\, r^2$$

$$.2063875\, r^2 - r + .0635 = 0$$

$$r = \frac{+1 \pm \sqrt{1 - 4\,(.2063875)\,(.0635)}}{2\,(.2063875)}$$

$$r = \frac{+1 \pm \sqrt{1 - .05242}}{.412775}$$

$$r = \frac{+1 \pm \sqrt{.94758}}{.412775}$$

$$r = \frac{+1 \pm (.9734)}{.412775}$$

Because of the plus and minus values carried in the equasion above, the tetrachoric r formula yields two answers, one of which is obviously wrong since it will fall beyond the ranges of - 1.00 to + 1.00.

$$r = \frac{1.9734}{.4.2775} \qquad \text{or} \qquad r = \frac{.0266}{.4.2775}$$

$r = 4.78081$ (obviously the wrong answer)

$r = .006444$ (the correct answer)

NOTE: Since coefficients of correlation range from - 1.00 to + 1.00, the first answer is obviously wrong. The coefficient of correlation of .006444 being very close to zero shows that there is no discernable relationship in this case between mal-assignment and a desire to leave the Air Force.

APPENDIX D

THE ADVANCED CADET PROGRESS RECORD

The Advanced Cadet Progress Record has been designed primarily to keep the advanced corps cadets in phase. When a cadet enters the advanced corps he is expected to be of junior standing in the university and to be able to complete his AFROTC and graduation requirements together at the end of two full years after his entry into the advanced corps. By regulation, the cadet may complete his AFROTC requirements prior to his date of graduation; however, if his expected date of graduation is prior to his expected date of commissioning, he cannot be enrolled or retained in the advanced corps. If the cadet cannot complete his graduation requirements within the two years from the date of his entry into the advanced corps, he may be extended for a period up to one full year in addition to the two years from his date of entry. The Advanced Cadet progress record serves to simplify the problem of keeping the cadet in phase.

The first page of the Advanced Corps Progress Record is shown on page 157. This page serves as a summary of the cadet's academic standing and credit status. The second page of the record aids in checking the completion of any special requirements or deficiencies that will need to be made up prior to graduation and commissioning. The third page is used for planning and as many additional pages of the third page format are used as are necessary.

ADVANCED CADET PROGRESS RECORD

Name: _____ Date entered advanced AFROTC: _____

College major: _____ Total credits required for graduation: _____

Cumulative credits upon entering advanced AFROTC: _____ Remaining credits required for graduation: _____

Expected date of graduation: _____ Number of semesters to graduation date: _____

Credit Hour Status

Semester of enrollment	required per sem	completed	deficient	to be made up	adjusted per semester

Extended date of graduation: _____ Date of extension: _____

REMARKS:

SPECIFIC CATEGORY OR GRADUATION REQUIREMENTS TO BE COMPLETED OR MADE UP

Category of cadet: _____

Semester of enrollment	Course number	Title of course	Credit hours	Final grade

REMARKS:

Name: _____

Semester: _____ Academic standing: _____

Department	Course number	Title of course	Credit hours	Final grade

Semester: _____ Academic standing: _____

Department	Course number	Title of course	Credit hours	Final grade

Name: _____

Semester: _____ Academic standing: _____

Department	Course number	Title of course	Credit hours	Final grade

Semester: _____ Academic standing: _____

Department	Course number	Title of course	Credit hours	Final grade

IMPORTANT!

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