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PREVIEW

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AN EMPIRICAL INVESTIGATION OF EXECUTIVE DEVELOPMENT IN THE
UNITED STATES AIR FORCE

The University of Nebraska - Lincoln

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PREVIEW

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AN EMPIRICAL INVESTIGATION OF EXECUTIVE DEVELOPMENT
IN THE UNITED STATES AIR FORCE

by

John J. Vitton, Jr.

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy
Major: Interdepartmental Area of Business

Under the Supervision of Professor Cary D. Thorp, Jr.

Lincoln, Nebraska

April, 1982

TITLE

AN EMPIRICAL INVESTIGATION OF EXECUTIVE DEVELOPMENT IN THE

UNITED STATES AIR FORCE

BY

JOHN J. VITTON, JR.

APPROVED

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Chapter I

INTRODUCTION

Executive development in the United States Air Force (USAF) is of utmost importance considering the magnitude of human, material, and financial resources involved in the Air Force's global mission. Before engaging in a discussion of USAF's executive development problems, a brief digression is necessary to better appreciate the purpose of this study, the historical background of USAF and its involvement in developing management techniques, and its present organization.

The Purpose

As late as 1962, the United States Air Force (USAF) did not have a specific, integrated management development program. Over 50 percent of the officers surveyed in a 1962 study indicated that they were not exposed to on-the-job managerial development techniques such as counseling, coaching (on-the-job training by supervisors), understudy training, job rotation on a specific assignment, and self development.¹ These formal on-the-job methods of executive development were lacking despite the belief by Peter Drucker and other

¹Robert L. Able, Major, USAF, "An Analysis of the Use of Selected Methods of Executive Development," (Ph.D. dissertation, University of Kentucky, 1962), pp. 99-138.

management luminaries that "the best management training is on-the-job training in a situation where there is competition for promotion and the necessity to deal with real problems."² This dissertation was designed to replicate and extend the 1962 study to determine if USAF is better utilizing on-the-job management development techniques in 1980-81.

Historical Background: USAF and Management Development

The United States Air Force was founded on August 1, 1907, nearly four years after Orville Wright made the first successful powered flight at Kitty Hawk, North Carolina, on December 17, 1903. The Aeronautical Division, as the Air Force was then known, was subordinate to the Army's Chief Signal Office and consisted of a captain, two enlisted men, and three balloons. On July 30, 1909, the first military airplane was tested and attained a top speed of 42 miles per hour. By 1910, the Aeronautical Division had two officers, and nine enlisted men, plus one airplane, an airship (dirigible), and three balloons. The Aeronautical Division was renamed the Aviation Section of the Signal Corps in 1914. In 1918, it was separated from the Signal Corps and redesignated the Army Air Service. Brig. General "Billy" Mitchell became chief of the air units of the Allied Armies in Europe, in September, 1918. World War I proved that the primary value of military aircraft was not for observation, but for attack. Better engines, the oxygen mask equipped with two-way voice communications, automatic cameras, electrically heated clothing, and aero-medical

²Peter F. Drucker, Management: Tasks, Responsibilities, and Practices, (New York: Harper and Row, 1974), p. 422.

research were also a result.³ In 1919, the fledgling Air Force was confronted with the need to instill technological knowledge, which Katz later identified as one of a manager's three basic skills.⁴ Believing that no man could effectively direct work of which he knew nothing, Colonel Thurman H. Bane directed Lieutenant Edwin E. Aldrin, father of the astronaut Edwin E. Aldrin, Jr., to organize the Air School of Application, later known as the Air Force Institute of Technology's School of Engineering.⁵

In July 1920, the Air Service School was founded at Langley Field, Virginia. This school was later moved to Montgomery, Alabama and in 1946 became known as the Air University. The curriculum consisted of tactical, technical, and administrative studies. The administrative areas involved course work in staff management and logistics.⁶ On July 21, 1921, General Mitchell demonstrated the potential of aerial bombardment by using eight Martin bombers to destroy, in less than 25 minutes, the "unsinkable" dreadnaught, the captured German battleship Ostfriesland, anchored off Chesapeake Bay.⁷ On April 4, 1924, four of the Air Service's single-engine biplanes took

³ Department of Defense Pamphlet 1-11 (AF 190-1-13), "The United States Air Force," Washington, D.C., Office of the Armed Services Information and Education, March 31, 1958, pp. 3-4.

⁴ Robert J. Katz, "Skills of an Effective Administrator," Harvard Business Review, 33 (January-February 1955), p. 34.

⁵ Air Force Institute of Technology, Yesterday, Today, and Tomorrow, November 1979, p. 4.

⁶ Major T. D. Milling, "Air Service Tactical School: Its Function and Operation," U.S. Air Services, September 24, 1924, pp. 35-40.

⁷ Alvin M. Josephy, Jr., ed., The American Heritage History of Flight (New York: American Heritage Publishing Company, Inc., 1962), p. 201.

off from Seattle and two returned on September 28th after completing the 26,000 mile circumnavigation of the globe, thus demonstrating the long-range capabilities of aviation.⁸ The feud between those advocating a strong and independent air force and its opponents culminated in the Galileo-like court-martial of General Mitchell in late 1925. In 1926, the Army Air Service was renamed the Army Air Corps and, in 1941, the Army Air Forces. The Air Force had more than 274,000 enlisted men, 22,000 officers and 10,000 planes under its jurisdiction by 1941.⁹ The Army Air Force played a vital role in the defeat of Nazi Germany by its aerial bombardment of "Fortress Europe" and the defeat of the Luftwaffe. In the Pacific, air power demonstrated its long-range striking power. The low level incendiary bomb attacks against Japan and later the atomic attacks on August 6, 1945, against Hiroshima and on August 9th against Nagasaki brought the war in the Pacific to an end.¹⁰ "The last twelve months of the war saw the introduction of Hitler's vengeance weapons, the V-1 and V-2 missiles and the use of the first jet aircraft by both the British and the Germans."¹¹ The development of the jet engine, missiles, and atomic weapons ushered in the age of the jet, missile, and atomic warfare almost simultaneously. These scientific breakthroughs compounded the complexity of aviation technology and resulted in the formation of the

⁸ Ibid.

⁹ Department of Defense Pamphlet 1-11 (AFP 190-1-13), pp. 3-4.

¹⁰ Alfred Goldberg, A History of the United States Air Force: 1907-1957, (Princeton: D. Van Nostrand Company, Inc., 1957), p. 87.

¹¹ Josephy, p. 334.

Triad composed of atomic armed bombers, land-based missiles, and atomic submarines to counter Communist threats. Winston Churchill called the resulting nuclear stalemate the "Balance of Terror" or deterrence.¹² The roots of the Quantitative School of management stem from the application of quantitative methods, such as Operations Research, for decision making to solve military needs during World War II.¹³ By the end of World War II, the Air Force was composed of 2,253,000 persons and about 63,715 planes.

In 1948, the Air Force played an important role in the lifting of the Berlin Blockade. By the time of our entry into the Korean War in June 1950, the Air Force strength had diminished to 411,000 personnel stretched around the globe and 17,000 aircraft of which fewer than 7,000 were first-line combat aircraft.¹⁴

During the Eisenhower presidency, the Intercontinental Ballistic Missile (ICBM) was developed on a crash basis in answer to the launching of the Russian Sputnik and ICBM progress.

The real ICBM story has also never been told. Three immigrants, Gardner (Assistant Secretary of R&D, Von Karman (noted authority in astronautics), and Schriever (Air Force General and AFIT graduate, Class of 1941) literally saved this country by maneuvering Eisenhower off the golf course and away from the bridge table to make one of his two greatest decisions as President then-Col. B. A. Schriever was given top national priority to develop the ICBM. Schriever successfully ran a program many times greater than the World

¹² Sir Winston Churchill, "The Balance of Terror," an address to the House of Commons, March 1, 1955, reprinted in Eugene M. Emme, The Impact of Air Power, (Princeton: D. Van Nostrand Company, Inc., 1959), pp. 754-764.

¹³ Herbert A. Simon, The New Science of Management Decision, (New York: Harper and Row, Inc., 1960), p. 15.

¹⁴ Department of Defense Pamphlet 1-11, p. 6.

War II Manhattan District, and succeeded in checkmating the Soviets just in the nick of time. In fact, when John F. Kennedy began the campaign for the Presidency in 1959 claiming a "missile gap," Schriever had just closed it.¹⁵

In the late 1950s, the Air Force pioneered in the computer technology field. The Strategic Air Command's war plans involving complex targeting were a major user of data processing outputs.

The Air Force played a major role in the Vietnam episode, in the relief of beleaguered Khesanh and brought the North Vietnamese back to the Peace Table after the 12 days of aerial bombardment of military targets in the Hanoi-Haiphong complex, in December 1972.

Today, the Air Force is a gigantic organization employing 800,535 military and civilian personnel.¹⁶ Its Fiscal Year 1981 budget of 46.3 billion dollars represents 1.6 percent of the Gross National Product of the United States, 7.0 percent of the Federal budget, and 29.4 percent of the Department of Defense budget¹⁷ (see Appendix B, Figure 1, page 479). The Air Force Deputy Director of Budget told the Senate Armed Forces Subcommittee on Preparedness, on March 11, 1981, that the Air Force has 133 major installations, 2,850 minor installations, 501 million square feet of buildings, 12,000 miles of street and roads, 8,696 aircraft and 569,000 military

¹⁵T. F. Walkowicz, "Von Karman's Singular Contributions to U.S. Aerospace Power," Air Force Magazine, 64, May 1981, p. 72.

¹⁶Computer Report PMC 588, United States Air Force Military Officer Strength, and Computer Report PMC 261 Total Strength Report, Air Force Manpower and Personnel Center, Randolph AFB, Texas, October 31, 1980. Civilian Monthly Report of Federal Employment, Office of Secretary of Defense, Directorate of Civilian Personnel, October 31, 1980.

¹⁷USAF Summary, Directorate of Cost and Management Analysis, HQ USAF, 1981.

personnel. The replacement value of the buildings, utilities, pavement, and land was estimated to be 92 billion dollars.¹⁸

In contrast, Exxon Corporation in 1980, employed 177,000 men and women and its total assets amounted to 56.6 billion dollars.¹⁹ American Telephone and Telegraph with 125.4 billion total assets employed 1,044,041, as of December 31, 1980.²⁰

The Air Force mission is stated in Air Force Manual (AFM) 1-1:

The mission of the United States Air Force is to prepare our forces to fight to preserve the security and freedom of the people of the United States. Our goal is peace. To achieve this goal we must deter conflict by maintaining a force that is capable and ready. This posture is sustained by the Air Force and supported through the teamwork of our nation's armed services. The unique characteristics and capabilities of the Air Force enable us to be a decisive factor during crises or conflict. We have five primary tasks:

- Strategic operations
- Mobility operations
- Tactical operations
- Command and control of these operations
- Support of these operations

If conflict occurs, the Air Force will respond with actions as directed by the National Command Authorities. We will use the force necessary to resolve the conflict at its lowest level on terms favorable to the United States. To ensure that this capability and the will to use it are perceived as credible by all nations, the Air Force must be organized, trained and equipped to develop forces that can prevail. Our mission requires dedicated, disciplined, and

¹⁸ Richard D. Murray, Brigadier General, USAF, Deputy Director of Budget, HQ USAF, Presentation to the Committee on Armed Services, Subcommittee on Preparedness, United States Senate, March 11, 1981, pp. 3-4.

¹⁹ Standard Corporation Descriptions, Standard and Poors Corporations Records, New York, Vol. 42, No. 7, Section 2, April 8, 1981, pp. 1996 and 1998.

²⁰ Standard Corporation Descriptions, Standard and Poors Corporation Records, New York, Vol. 42, No. 14, Section 2, July 30, 1980, pp. 6907 and 6909.

trained people who live and work by the highest professional standards.²¹

The Air Force is composed of 11 major commands. These commands are the Air Force Communications Command, Air Force Logistics Command, the Air Force Systems Command, the Air Training Command, the Alaskan Air Command, the Electronic Security Command, the Military Airlift Command, the Pacific Air Forces, the Strategic Air Command, the Tactical Air Command, and the United States Air Forces in Europe (see Appendix B, Figure 2, page 480).

Thirteen Separate Operating Agencies are also under Air Force jurisdiction. They are the Air Force Accounting and Finance Center, the Air Force Audit Agency, the Air Force Commissary Service, Air Force Engineering and Services Center, Air Force Inspection and Safety Center, Air Force Intelligence Service, Air Force Services Center, Air Force Manpower and Personnel Center, Air Force Medical Service Center, Air Force Office of Security Police, Air Force Office of Special Investigations, Air Force Service Information and News Center, and the Air Force Test and Evaluation Center.

Direct Reporting Units are the Air Force Academy, Aerospace Defense Center, Air Force Technical Applications Center, Albert F. Simson Historical Research Center, the Air Force Reserve, and the Air National Guard.²²

²¹Air Force Manual 1-1, "Functions and Basic Doctrine of the United States Air Force" (Washington: Department of the Air Force, February 14, 1979), p. v.

²²"Reports from the Major Commands," Air Force Magazine, 64, May 1981, pp. 80-136.

Management development programs were instituted in American industries in the late 1940s and early 1950s. Peter Drucker described the emergence of management development programs by writing:

The years since 1950 have seen a veritable management development boom within the wider management boom. In the mid-forties, when I first became interested in this subject, I could find only two companies that had given serious thought to the development of managers: Sears, Roebuck in America and Marks & Spencer in England. At that time there were only three university programs in America for the continuing advanced education of managers: the Sloan Program at the Massachusetts Institute of Technology; the programs at New York University Graduate Business School for the continuing education of managers and young professionals in banking and finance; and then, brand-new, the Advanced Management Program at the Harvard Business School.

Ten years later, in the mid-fifties, when an attempt was made to catalog the companies with specific management development programs, the number already ran to some three thousand. And a great many universities in the United States had gone into all kinds of advanced management programs.²³

Air Force officers and civilians were participating in the Harvard Business School and Sloan Program in the early fifties. On and off-base University programs were initiated. In 1953, the author was enrolled in the Ohio State University MBA program at Wright-Patterson Air Force Base. Today, practically all Air Force bases have extensive education programs often conducted in base facilities by colleges and universities.

In 1954, the Air Force stressed the importance of management development in Air Force Manual 25-1, USAF Management Process, which was incorporated in the October 15, 1964 update, as follows:

Development of future managers is one of the most significant responsibilities of managers; without it, managerial work as an institution could not continue. To accomplish this responsibility, the manager must think of his staff and subordinates as an integral part of a continuous operational

²³Drucker, p. 419.

process, with both immediate and long-term implications and requirements.

a. There are few "born managers"; most are developed. They are not endowed with their professional and technical qualifications, but must acquire them through experience and training. Military services have long recognized this and given their officers opportunity, through assignments and training, to continuously increase their qualifications. Officers usually begin their careers in command or staff assignments at lower echelons, and move progressively up. The military management concept is that an accumulation of diverse experience is essential to develop an officer's capacity to work effectively at command level and above. Tours at service schools and, more recently, at civilian schools intersperse duty assignments.

b. Developing Air Force managers, i.e., promoting their competency to perform tasks of ever-increasing complexity, is an inherent responsibility of command. But it has not been left solely to the efforts of individuals and their immediate superiors. To assure continuous adequate staffing of higher echelons, the Air Force structure itself is geared to developing progressive competency among its managers. This institutional structure has been augmented by a number of significant personnel policies and by the organization and extensive use of various techniques, training patterns, and facilities.²⁴

The Air Force also maintains extensive training facilities for technical skills such as pilot training, navigation, logistics, intelligence, administration, and other fields. The three-tier professional military education program of the Air University, Squadron Office School for junior officers, the Air Command and Staff College for middle managers, and the Air War College and Industrial College of the Armed Forces for senior officers all devote a portion of their curricula to management development. The Air Force Institute of Technology also provides course work involving sophisticated quantitative skills.

²⁴ Air Force Manual 25-1, USAF Management Process, Washington: Department of the Air Force, 15 October 1964, p. 36.