

AIR FORCE INTELLIGENCE OFFICER TARGETEERS:
A DISCUSSION ON SPECIALIZATION

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MASTER OF MILITARY ART AND SCIENCE
Strategic Intelligence

by

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ABSTRACT

AIR FORCE INTELLIGENCE OFFICER TARGETEERS: A DISCUSSION ON SPECIALIZATION, by Major Paul A. Rozumski, 104 pages.

Several recent targeting studies have fundamentally shaken the Air Force to its core by challenging the service's ability to employ precision munitions. The erosion of the targeting skill sets occurred gradually. Protracted low-intensity conflict from the end of the first Gulf War to the war in Afghanistan left the Air Force with little opportunity for self-reflection.

Following the release of the Greybeard targeting study in 2008, the Air Force invested significant resources to organize, train, and equip its Airmen in re-establishing mastery over targeting skill sets. Action and dialogue persist. To contribute to the present discussion for strategic decision making, this research paper addresses a primary research question: Is there a benefit to the Air Force in creating specialized company grade targeting officers?

Themes that emerged from interviewing targeteers and senior intelligence officers during this research project indicate the Air Force should focus its attention on force management, education and training, and organizational structure.

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TABLE OF CONTENTS

	Page
MASTER OF MILITARY ART AND SCIENCE THESIS APPROVAL PAGE	iii
ABSTRACT	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	vi
ACRONYMS	viii
ILLUSTRATIONS	ix
CHAPTER 1 INTRODUCTION	1
Background	2
Primary and Secondary Research Questions	8
Definitions	8
Limitations	10
Scope	10
Delimitations	11
Significance of Thesis	11
CHAPTER 2 LITERATURE REVIEW	12
Theme 1: Force Management	12
Theme 2: Education and Training	22
Theme 3: Organizational Structure	29
Conclusion	33
Gaps and Trends in the Record	34
Significance of Thesis in Relation to Existing Literature	34
CHAPTER 3 RESEARCH METHODOLOGY	35
Qualitative Research Techniques	35
Research Questions	36
Measurement Strategy	36
Sampling Plan	37
Data Collection Instrument	40
Ethical Considerations	41
Validity and Reliability	42
Summary and Conclusions	43

CHAPTER 4 ANALYSIS	44
Theme 1: Force Management	45
Professional Development Plan	45
Deployments	52
Utilizing Prior Service Expertise	54
Force Management Findings.....	55
Theme 2: Education and Training	59
Officer Career Education and Training Plan	59
Initial Skills Training	62
Advanced Education and Training.....	69
Education and Training Findings	72
Theme 3: Organizational Structure	76
Goodfellow Air Force Base	77
ISR Advanced Courses Squadron	78
Wing Level Intelligence and Targeting	78
Air Force Targeting Center	80
Organizational Structure Findings	80
CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS	83
APPENDIX A SUMMARY OF FINDINGS	88
Force Management.....	88
Education and Training.....	88
Organizational Structure	89
REFERENCE LIST	90
INITIAL DISTRIBUTION LIST	95

ACRONYMS

AOC	Air and Space Operations Center
ATC	Advanced Targeting Course
CFETP	Career Field Education and Training Plan
COCOM	Combatant Command
CTC	Combat Targeting Course
IFTU	Intelligence Formal Training Unit
IPRo	Intelligence, Surveillance, and Reconnaissance Professionalization
ISR	Intelligence, Surveillance, and Reconnaissance
MAJCOM	Major Command

ILLUSTRATIONS

	Page
Figure 1. Operations, Applications, and Mapping Structure.....	3
Figure 2. Intelligence Officer Career Path	4
Figure 3. Space Professional Experience Codes	49
Figure 4. Sample Air Force Career Field Path Tool.....	51
Figure 5. 14N Career Path Options	61
Figure 6. Systems Perspective of the Operational Environment.....	66

CHAPTER 1

INTRODUCTION

Air Force Intelligence has only a vague definition of what constitutes a targeteer.
— Greybeard Targeting Study for the 480th Intelligence Wing

With a reemerging Russia and a robust Chinese economy fueling its military, United States' national interests are increasingly reliant upon long-range power projection in non-permissive and urban environments. The last two decades since the end of the Cold War marked a period of major restructuring in manpower and organization for the Air Force and its sister services. Meanwhile, protracted low-intensity conflict from the end of the first Gulf War to the war in Afghanistan left the Air Force with little opportunity for self-reflection and assessment. The present operational environment requires intelligence officers highly capable of supporting the use of precision munitions.

Several recent targeting studies, such as the 2008 Greybeard targeting study, have fundamentally shaken the Air Force to its core by challenging the service's ability to employ precision munitions (SAIC 2008, 2). The effective employment of precision munitions requires specific targeting skill sets. These targeting skills sets define the Air Force's targeting core competency, but this core competency has gradually eroded because of force management, education and training, and organizational policies.

In response to recent targeting studies, the Air Force invested significant resources to organize, train, and equip its Airmen to reestablish mastery of targeting skill sets. Action and dialogue persist. To contribute to the ongoing strategic decision making regarding Air Force targeting, this research paper focused on determining if any benefit exists for the Air Force in specializing a portion of company grade intelligence officers in

targeteering. This research concentrated on the themes of force management, education and training, and organizational structure.

Background

The development of new stealth bombers and fighters, and the modernization of the current fleet, has produced greater capacity to deliver large amounts of ordnance. Since the early 1990s, joint forces have been operating within non-permissive environments and among civilians. The expectation of efficient combat results with no collateral damage or fratricide steadily increased with the development of precision munitions. However, the ability to mission plan has lagged (SAIC 2008). The disproportion is attributed to a poorly invested and maintained intelligence targeting portfolio (SAIC 2008).

From a force management perspective, the reduction in force after the first Gulf War required the Air Force to achieve efficiencies in a climate of fiscal and manpower shortfalls. Many officer specialties were consolidated and eliminated. Prior to 1992, the 80XX Air Force specialty intelligence officer structure was composed of multiple officer specialties. In 1992, these specialties merged into three categories: Operations, Applications, and Mapping, Charting, and Geodesy (see figure 1). The targeting officer specialty ceased to exist under the new force management policy and was consolidated within Applications (17th Training Wing 1992, 60).

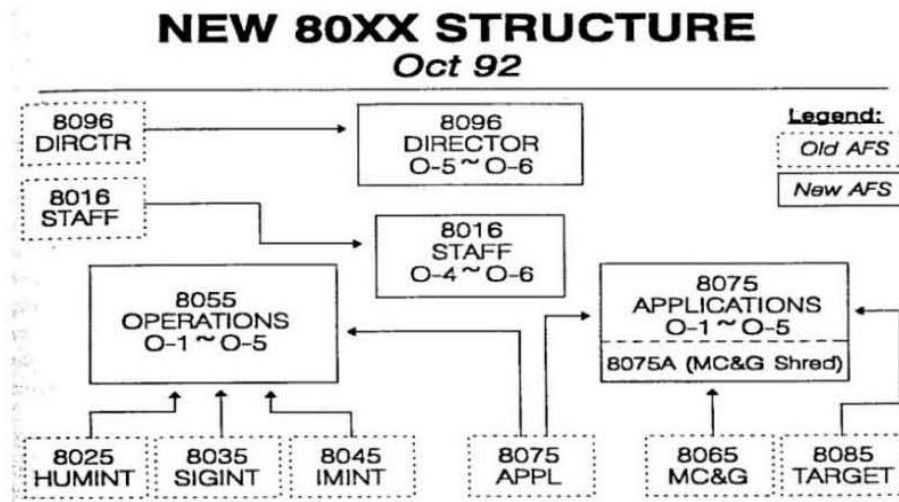


Figure 1. Operations, Applications, and Mapping Structure
Source: 17th Training Wing, *History* (Goodfellow Air Force Base: 17th Training Wing, 1992), 63.

By 1993, career field managers noted a manpower shortfall with the Applications category after implementing the generalist force management policy (17th Training Wing 1992, 60). A contributing factor was due to targeteers that had separated because of Air Force reduction in force policies. The solution to the manpower shortfall in Applications focused on two courses of action. The first involved moving extra officers from Operations and non-intelligence positions into Applications. The second was to increase the training output of intelligence officers at Goodfellow Air Force Base. Over time, Operations and Applications became more balanced, and the Air Force favored an intelligence officer force management policy of breadth over depth.

Operations, Applications, and Mapping, Charting, and Geodesy combined in 1998. This action solidified the transition from multiple Air Force specialties to a single specialty code. In turn, officers were strongly encouraged to rotate through different

intelligence professional competencies as a company grade officer. This mindset is depicted in the intelligence officer career path pyramid (see figure 2). While not listed on the pyramid, targeting was, and is still considered, a wing or unit level primary job proficiency.

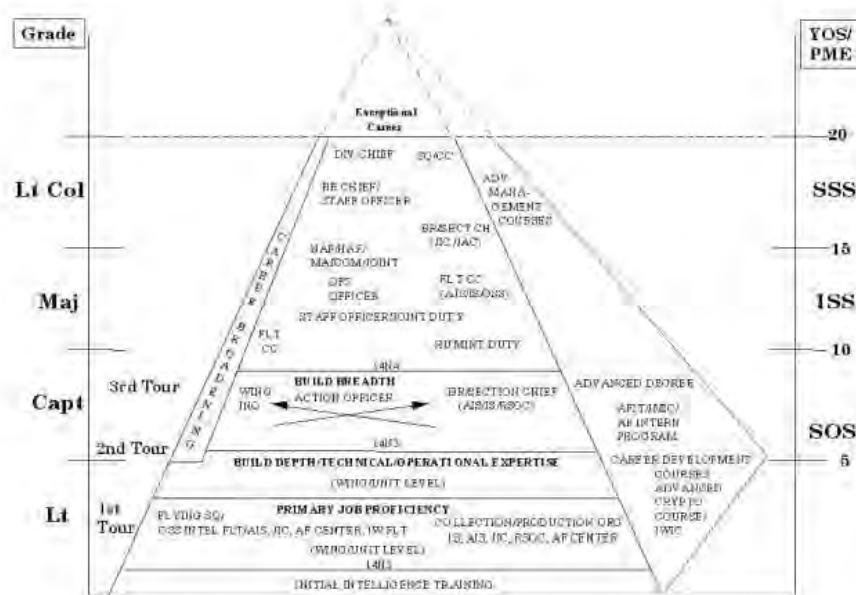


Figure 2. Intelligence Officer Career Path

Source: Air Force Reserve Officer Training Detachment 225, "Intelligence Officer Pyramid," www.valpo.edu/afrotc/Career%20Path%20Guide.doc (accessed 1 May 2011).

During the evolution of the targeting officer in the 1990s, Air Force enlisted targeteers underwent a similar transition. Targeteers were absorbed within one of six intelligence specialties. In 2007, the Air Force initiated the Enlisted Intelligence Transformation, resulting in further consolidation. However, in response to the Greybeard targeting study and other strategic Air Force transformation initiatives, the enlisted targeteer reemerged as a separate specialty in 2009.

As the Air Force executed strategic force management initiatives, officer education and training also adapted to reflect greater generalization. During the 1990s, targeting foundational requirements, such as intelligence preparation of the battlespace, strategy to task development, targeting system development, weapon engineering, and combat assessment received less attention. Academics on traditional targeting skill sets were condensed at the intelligence technical schools. Weeks previously spent on subject matter became days.

With the need to expose officers to vast amounts of course material, targeting fundamentals moved away from the Intelligence Officer Fundamentals Course and into graduate level courses. By the late 1990s, the Combat Targeting Course (CTC) and the Joint Targeting School became the primary means of awarding an officer the targeting skill identifier. A few additional training courses for wing level operations also existed, such as the F-16 ~~top~~ off intelligence course.” However, the additional courses were not designed to deliver the same level of targeting fidelity as the CTC.

Since 2000, specialized targeting training options have dwindled. There are many reasons, but the primary ones are an increased operations tempo and a decline in education and training dollars. Also persistent was a lingering desire to eliminate the perceptions of “stove-piping” officers within a single professional competency. However, the Greybeard targeting study provided the opportunity to highlight the importance of targeting education and training to Air Force strategic-decision makers.

Lieutenant General David Deptula, the Deputy Chief of Staff for Intelligence, Surveillance, and Reconnaissance, reaffirmed targeting as an intelligence professional competency early in his tenure in 2006. Further, the General used the Greybeard and

other studies to drive strategic change in the Air Force. Ultimately, his desire was to link intelligence and operations, believing it difficult to distinguish the two (Bennet 2009, 2).

Enlisted Targeteers benefited from General Deptula's education and training initiatives. In 2010, Goodfellow Air Force Base graduated the first enlisted targeteers from the Enlisted Targeting Technical Training Course. The enlisted targeting specialization is still evolving, but a career professional roadmap from technical school to retirement exists. Moreover, the roadmap contains periodic education and training opportunities for building both depth and breadth. Promotions are attained by demonstrating technical expertise and leadership potential.

As the enlisted targeteers underwent major education and training changes, corresponding officer development remained stagnant with the exception of the revamped CTC. CTC became the Targeting Intelligence Formal Training Unit (Targeting IFTU). It is intended for officers, and cross-trainee, non-commissioned officers, projected to serve in a targeting related capacity. The result of the change is seven weeks of targeting fundamentals versus a few days within the Intelligence Officer Fundamentals Course.

Officers graduating from the Targeting IFTU and completing mission qualification training at their duty station receive a targeting special experience identifier (SEI). However, officers with targeting expertise are still expected to assume greater roles and responsibilities by favoring breadth of experience over deepening expertise. While periodic professional military education exists for officers, there is no corresponding requirement to demonstrate technical expertise prior to promotion or assuming greater leadership. Unlike the enlisted targeteer specialists, there is no

professional roadmap for intelligence officers from technical school until retirement (Gersten 2011).

In addition to force management and training initiatives, the Air Force also examined its organizational approach toward targeting. During the early 2000s, Headquarters Air Combat Command's Intelligence Directorate executed the targeting mission in accordance with Headquarters Air Staff guidance and policy (U.S. Air Force 1998, 2). The focal point for specialized targeteering and resident expertise was the 480th Intelligence Group at Langley Air Force Base.

Over the years, the 480th Intelligence Group emerged as the Air Force's lead organization for tailored geospatial intelligence production, target system analysis, weaponeering, threat recognition, and precision engagement. The 480th Intelligence Group also certified targeteers on Air Force point mensuration (Pratzner 2011). As a result of General Deptula's strategic ISR initiatives, the 480th Intelligence Group became Air Combat Command's Combat Target and Intelligence Group in 2008 and the Air Force Targeting Center in 2010 (Pratzner 2011).

The Air Force Targeting Center serves as a reachback organization to satisfy a combatant command's deliberate and dynamic targeting requirements. Today, most of the enlisted targeteers and a handful of officers receive orders for the Air Force Targeting Center as a first-term assignment (Pratzner 2011). The current commander is a former targeting officer. The Center relies heavily on civilians and contractors for resident expertise.

The 2008 Greybeard targeting study sparked debate on how to reinvigorate the Air Force's ability to employ precision munitions. In response, the Service rapidly

adapted existing policies and organizations. The Air Force desired to regain mastery of its targeting skill sets, or targeting core competency. To acquire mastery, it created an enlisted specialty and implemented a force management and education and training construct to support the enlisted targeteer. Yet, action and debate persist concerning the role of intelligence officers in the latest era of Air Force targeting.

Primary and Secondary Research Questions

Is there a benefit for the Air Force in creating specialized company grade targeting officers?

1. What are the historical and present views on specialization versus generalization for targeteers; what is the impact of specialization versus generalization on promotion rates?

2. How should the Air Force manage intelligence officers with targeting experience?

3. How is the career field educating and training its officers to perform within the targeting process?

4. What policy and organizational changes, if any, are recommended for company grade officers?

Definitions

The following is a short description of key terms and concepts related to this research paper. The descriptions provide a common understanding for subsequent discussion. Many of the definitions are taken verbatim from doctrine; in other cases, a general idea of the term or concept is conveyed.

Air Force Enlisted Intelligence Transformation. A result of the initiative was the creation of the enlisted targeteer: the 1N1X1B.

Core Competency. The basic areas of expertise or the specialties that the Air Force brings to any activity across the spectrum of military operations, whether as a single service, or in conjunction with the core competencies of other services in joint operations. Core competencies represent both air and space power application theory and physical capability represented in a well-trained and equipped Air Force (U.S. Air Force, 2006, 46).

Deliberate Targeting. The part of the tasking process for prosecuting targets that are detected, identified, and developed in sufficient time to schedule actions against them in tasking cycle products such as the air tasking order (U.S. Air Force 2006, 49).

Dynamic Targeting. The part of the tasking process for prosecuting targets that are not detected in time to be included in deliberate targeting, and therefore have not had actions scheduled against them (U.S. Air Force 2006, 50).

Force Development. A series of experiences and challenges, combined with education and training opportunities, that is directed at producing Airmen who possess the requisite skills, knowledge, experience, and motivation to lead and execute the full spectrum of Air Force missions (U.S. Air Force 2006, 51).

Reachback. The process of obtaining products, services, and applications or forces, equipment, or materiel from Air Force organizations that are not forward deployed (U.S. Air Force 2006, 64).

Specialty Training. The total training process or life cycle used to qualify Airmen in their assigned specialty (U.S. Air Force 2006, 68).

Targeteer. Multi-disciplinary specialists highly trained in analyzing targets and developing targeting solutions to support the commander's objectives (U.S. Air Force 2006, 70).

Targeting. The process of selecting and prioritizing targets and matching the appropriate response to them, taking account of operational requirements and capabilities (U.S. Air Force 2006, 70).

Limitations

Due to the dynamic pace of targeting operations, new Air Force strategic policy guidance and directives are constantly implemented. This research paper captured relevant information related to force development, education and training, and organizations as they appeared in a fixed moment in time. The findings and recommendations are based on unclassified sources to benefit a broad audience and strategic decision making.

Scope

The research paper focused on identifying and assessing the potential benefits to the Air Force in specializing a portion of intelligence company grade officers in targeteering. The thesis gathered data from a multitude of sources and policy-makers at the strategic to tactical level. The data fits within themes associated with force management, education and training, and organizational changes. This narrow focus facilitated formulating useful findings and recommendations.

Delimitations

This is not a study on specific Air Force weapon systems or tactics, techniques, and procedures associated with the joint targeting process. Nor does it delve into nuclear or non-kinetic targeting operations. It is a study focused on intelligence officers supporting the delivery of conventional ordnance primarily at an Air and Space Operations Center, and flying wing, or unit level.

Many organizations conduct targeting, such as Air Force Global Strike Command and Air Force Cyber Command. However, Air Combat Command is the lead major command for the employment of conventional precision munitions (U.S. Air Force 2009a, 1). Findings and recommendations within this research paper may be adapted to targeting organizations outside of Air Combat Command.

Significance of Thesis

The Air Force invested heavily in its targeting capability based on the recommendations of the 2008 Greybeard targeting study and strategic force development initiatives. However, very little attention thus far has been directed at the intelligence officer. With the Enlisted Intelligence Transformation and the establishment of new targeting organizations, it is an appropriate time to consider the impact to intelligence officers.

CHAPTER 2

LITERATURE REVIEW

The following literature review provides a theoretical understanding of the research questions presented in the first chapter. This chapter organizes by themes the most recent and relevant sources related to the research questions. These themes are force management, education and training, and organizational structure. The literature review will contribute to the collective understanding of whether there is a benefit to the Air Force in specializing company grade officers as targeteers.

Four types of sources are utilized. The first type is United States military doctrine. Doctrine conceptually captures how to conduct military affairs, is based on experience, and is descriptive. The second type of source is Air Force instructions and pamphlets. These sources are prescriptive and establish procedures for organizing, training, and equipping the Air Force. The third type is peer-reviewed journals and published articles. A wide range of opinion, fact, and contrasting viewpoints are evident within these sources. The fourth type is for-profit and non-profit studies. Introspective, factual, and highly critical, these sources furnish findings and recommendations to aid in strategic decision making.

Theme 1: Force Management

The geopolitical environment was extremely dynamic after the fall of Communism. For the first time in fifty years, many nations had opportunities for democracy and economic growth. With opportunity came strife. Multiple military operations persisted throughout the 1990s in places such as the Middle East, Europe, and

Africa. Occurring in parallel, the industrial age fully transitioned to the information age. The Air Force adapted its force for low-intensity conflict by leveraging new digital technology. In the mid 1990s, information warfare dominated Air Force doctrine. In turn, the doctrine influenced force management policy decision making within the Air Force intelligence community.

By the late 1990s, intelligence officers were organized within one of three specialties: Operations, Applications, and Maps, Charts, and Geodesy. In 1997, Major General John Casciano, then Headquarters Air Staff Director of Intelligence, Surveillance, and Reconnaissance (ISR), published “Sentinel Force 2000+,” a strategic message to shape intelligence professional development (Casciano 1997). Two of Casciano’s objectives in the message were to describe the roles of an Air Force Intelligence professional and provide an enduring force management plan for enlisted, officers, and civilians (Casciano 1997).

General Casciano first linked intelligence officer roles within the broader Air Force information warfare doctrine and mission. He defined information warfare as actions to deny, exploit, or destroy the enemy’s information and functions (Casciano 1997). The General encouraged officers to consider themselves information operators. Likewise, targeteers were considered information operators, since targeting involved the tasks of using information to produce target materials, analyze the enemy, and mission plan for flight operations (Casciano 1997).

“Sentinel Force 2000+” was the first intelligence force management publication in years to articulate a career development plan from initial technical school graduation to retirement. General Casciano outlined an officer career plan by describing a 100 to 400

level tiered assignment system. His plan was similar to a college degree program (Casciano 1997). Through this construct, an officer could acquire depth in targeting with multiple assignments at the wing level.

Many of the force management proposals in “Sentinel Force 2000+” were never implemented due to the terrorist attacks on America in 2001 and the ensuing military operations in the Middle East. The period between 2001 and 2005 accelerated the transition of the United States Air Force to an agile, expeditionary force, but the primary focus was on fielding new technology and not transforming the intelligence officer career field.

To drive change, the Air Force published a “Transformational Flight Plan.” Concurrently with the flight plan, information warfare doctrine became absorbed within ISR doctrine. The 2003 Air Force Transformational Flight Plan concentrated on delivering long range capabilities to the battlefield. These manifested in the form of new aircraft and precision munitions, distributed ISR operations, and an expeditionary fighting force (U.S. Air Force 2003, viii). According to Air Force testimony presented to the Senate Armed Services Committee, the Service struggled with balancing a force tailored for ISR operations in the Middle East, while remaining postured for major combat operations (U.S. Congress 2004, 9). The combination of an increased operations tempo, and the desire to acquire new, and adapt old technology, caused a delay in force management initiatives.

In 2005, the Research and Development Corporation (RAND) prepared a force management study for the Air Force to address the strain on Air Force personnel since 2001. The study, “Understrength Air Force Officer Career Fields,” identified the

intelligence career field as having significant force management problems for several reasons (Galway et al. 2005, 48). The first reason was attributed to having no dedicated career field manager to coordinate joint command and major command (MAJCOM) personnel requirements (Galway et al. 2005, 51). Lack of a full time career field manager led to stalled implementation of a professional officer development plan. During this time, intelligence officers were operating under a “4-3-2-1” force management strategy. The strategy was designed to expose officers to all four professional competencies during the Intelligence Officer Base Course, and through at least three assignments, gain expertise in one or more of the competencies. However, the strategy was flawed, since it front-loaded education in the Intelligence Officer Fundamentals Course and the lack of a career development plan caused knowledge to atrophy over time.

Force management problems were caused by how the career field wrote job requirements and manpower authorizations for company grade officers. Since the prevailing perception was that intelligence skills are mastered by specialized training over time, the career field provided lieutenants unspecified job requirements and manpower authorizations in favor of defining clear roles for captains. Lieutenants subsequently became disenfranchised with ill-defined roles and responsibilities and left the Air Force. This created a lack of captains to fill jobs at the wing level where the bulk of intelligence work was required (Galway et al. 2005, 48).

RAND also noted that a tenuous balance existed between acquiring breadth and depth as a company grade officer as a third reason for force management problems. This finding was attributed to an unclear professional development plan. The study found that officers were discouraged from multiple assignments in one single area of intelligence

because it hurt their chances for promotion (Galway et al. 2005, 48). Likewise, serving in career broadening assignments outside intelligence was also viewed negatively since intelligence skills could atrophy (Galway et al. 2005, 48). Moreover, the bias toward generalization decreased the pool of officers with multiple years of focused targeting experience.

In response to the force management dialogue within the Air Force, Major General James Poss, then leading Air Combat Command's Intelligence Directorate, identified the need for a two-pronged approach toward intelligence officer development in his 2006 publication, "Right Training for Right People at Right Time" (Poss 2006, 1). As the senior intelligence officer in Air Combat Command, he first called for reshaping the initial intelligence training at Goodfellow Air Force Base. General Poss advocated the awarding of a certification to perform specialized tasks associated with a weapon system (Poss 2006, 1).

General Poss' second approach was to ensure officers received the right training at the right time. The General advocated deliberate and purposeful training events (Poss 2006, 8). To implement his force management philosophy, the General's staff drafted an Air Force Instruction to codify the career development program. It became known as the 14N ISR Professional (IPRo) Career Development Program. It was the latest formal attempt at intelligence officer professionalization.

IPRo was championed again in 2009 in an Air War College research paper written by Mrs. Theresa Sanchez. In "Air Force ISR Officer and Civilian Career Force Management for the 21st Century," Mrs. Sanchez discussed officer and civilian force development under the IPRo construct. The paper advocated two steps toward IPRo

implementation by first linking every intelligence job with a function, mission area, and experience identifier (Sanchez 2009, 16).

The second step was to tie the jobs to core and professional intelligence competencies (Sanchez 2009, 16). As a result, this would enable more deliberate matching of officers to assignments. The effect would be to build breadth in multiple functions and expertise in a single professional competency. Finally, the Air Force could build a meaningful education and training program from technical school graduation until retirement (Sanchez 2009, 16). Two years after the paper's publication, IPRo is still under consideration by the Air Force.

The years between the late 1990s and 2006 saw momentum toward merging Air Force strategic transformation vision and intelligence force management. This was a task first attempted by Major General Casciano in "Sentinel Force 2000+." The catalyst for the merger was the creation of the post of Deputy Chief of Staff for ISR in 2006; Lieutenant General David Deptula filled the new position as the Air Force's senior intelligence officer.

To link the Air Force strategic vision with intelligence force management, General Deptula first codified ISR experiences from the last decade into doctrine. Air Force Doctrine Document 2-0, *ISR Operations*, described how ISR enabled targeteers to execute tasks, such as mission planning, for the delivery of precision munitions (U.S. Air Force 2010, 10).

The General then authored two articles, "Lead Turning the Future" and a "House Divided: The Indivisibility of ISR." The 2008 publications described the changing nature of warfare in the information age. General Deptula contended that our military can strike

an enemy at will, but the real challenge is seeking to first identify and understand the enemy we need to affect (Deptula 2008, 7). This sentiment is attributed to the elusive and unpredictable nature of the enemy encountered in low-intensity conflict (Deptula 2008, 13). Deptula also argued that ISR operations support tasks for delivering precision munitions on an enemy or providing information about his intentions to affect his future behavior (Deptula 2008, 1). Both are powerful effects.

Finally, General Deptula published his “2009 ISR Flight Plan” as a strategic steering document for the Air Force. With respect to force management, the Flight Plan had three goals. The first was to increase the number of intelligence general officers. Deptula believed this was best accomplished by building a bench for key National, Joint, and Combatant Command (COCOM) ISR assignments (Deptula 2009, 4). The second goal was to codify a consistent civilian career progression path where none had previously existed (Deptula, 2009, 4). The third goal was to ensure the Enlisted Intelligence Transformation continued on track. Of importance was consolidation of the multitude of specialties, while ensuring the enlisted targeteer became a reality (Deptula 2009, 4).

General Deptula’s desire to establish the enlisted targeteer was in response to Science Applications International Corporation’s (SAIC) 2008 Greybeard targeting study. The study presented two sets of force management findings and recommendations. The first stated that there was no clear definition of an Air Force targeteer (SAIC 2008, 11). The study also identified a trend toward generalization within the enlisted and officer ranks, and noted that the primary means for tracking targeting experience was a special experience identifier (SAIC 2008, 11). It revealed that targeting personnel have no

professional career path (SAIC 2008, 12). This oversight caused many targeteers to question the likelihood of promotion opportunities.

SAIC's second finding revealed the Air Force's diminished capacity to manage and execute the targeting mission. Between 2002 and 2008, the number of Air Force strategic targeting staff officers declined. During that period, 15 personnel previously dedicated to targeting management fell to just two filled positions on the Air Staff (SAIC 2008, 9). Across the COCOMs and MAJCOMs, similar declines occurred. Between 1991 and 2008, 950 target intelligence positions declined to 250 positions (SAIC 2008, 9). This correlated with a requirement to service over 300 precision guided munitions delivered in Operation Desert Storm to over 30,000 target nominations during the first 30 days of Operation Iraqi Freedom (U.S. Air Force 2008, 7). Staffing went down 74 percent at the same time demand went up a hundredfold. Further, most of the target nominations in Iraq were for precision guided munitions.

While SAIC was conducting its Air Force targeting study, the RAND Corporation also produced force management research in 2009. Titled ~~Improving~~ "Improving Development and Utilization of United States Air Force Intelligence Officers," the work studied the records of field grade officers. The effort was an attempt to enable part of General Deptula's vision for increasing the number of Air Force intelligence general officers.

The RAND study suggested officers were too narrowly specialized in the 1990s for filling general officer positions. The trend toward generalization was designed to produce ~~broadened~~ "broadened specialists" (Brauner et al. 2009, 1). To facilitate breadth, the Air Force created four areas of expertise for intelligence officers. Officers were encouraged by the career field manager and assignments process to gain experience in as many areas

of expertise as possible (Brauner et al. 2009, 2). RAND concluded that opportunities for officers to specialize early in a career existed while broadening as a field grade officer (Brauner et al. 2009, xii).

RAND derived many of its conclusions from a prior 2004 study by the corporation. In “Developing and Using General and Flag Officers,” RAND stated there are two types of general and flag officer positions: “developmental and using” (Thie 2004, 5). Developmental positions are early assignments to build functional skills and organizational knowledge (Thie 2004, 4). Using positions are more complex and entail ambiguous responsibilities that require skills acquired from developmental positions (Thie 2004, 5). While the study does not translate directly to targeteers, it highlights the benefit of building depth early in a career.

A new era for Air Force targeting began with the graduation of the first enlisted targeteer at Goodfellow Air Force Base in 2010 (Davis 2011). Most of the enlisted targeteers graduated with initial assignments at the Air Force Targeting Center and wing or unit level. Many senior Air Force officials view enlisted targeteers as essential components in enabling the Air Force to reacquire mastery of its targeting core competency.

The Air Force implemented an online Career Path Tool in late 2010 as a means to codify the realignment of career fields and update officer and enlisted career development plans. For officers, the tool was designed to produce an interactive career pyramid to broadly manage individuals and to provide the ability to examine personnel records. The online tool provides access to personalized career development plans, education and

training, skills required for jobs, and previous duty history (Hanson 2010, 1). It is one mechanism designed to implement a professional career development program.

Almost a year after producing the first enlisted targeteer and implementing the online Career Path Tool, Air Combat Command's Intelligence Directorate tasked the 15th Intelligence Squadron with a mission effectiveness study. Part of the task, in early 2011, required the researchers to assess the MAJCOM's ability to execute targeting operations. The Squadron published one significant finding related to force development.

The researchers noted that the collective experience of wing intelligence personnel is low (15th Intelligence Squadron 2011, 3). Specifically, 76 percent of personnel are on their first wing intelligence assignment within Air Combat Command. Also, nearly 20 percent of personnel are designated as cross-trainees with no prior targeting experience (15th Intelligence Squadron, 2011, 8). Further, Air Combat Command has 56 percent manning in the grade of E-6 and E-7 at the wing level (15th Intelligence Squadron 2011, 8). Finally, 24 percent of all deployments are unrelated to air operations and 20 percent of wing intelligence Airmen are deployed (15th Intelligence Squadron 2011, 13).

Over the last decade, there have been a number of attempts to link force management with Air Force strategic vision. For several years, the Air Force focused on codifying its information warfare doctrine before transitioning to ISR operations. The recent conflicts in the Middle East accelerated Air Force transformation initiatives to field agile, expeditionary capabilities. For a few years, the fielding of new capabilities outstripped the means to provide intelligence targeting support. The creation of the Deputy Chief of Staff for ISR and General Deptula's ISR Flight Plan effectively

combined Air Force strategic vision with force management initiatives. One of the more visible accomplishments of this effort was the establishment of the enlisted targeteer.

Theme 2: Education and Training

During the height of the Cold War, most Warsaw Pact capital cities were heavily defended military strongholds. The Air Force believed the combination of stealth technology and precision guided munitions was necessary to penetrate the Iron Curtain. Eastern Europe eventually fell without a firing a shot, but the opportunity to test the Air Force's theory occurred during Operation Desert Storm. Baghdad represented Saddam Hussein's seat of power and one of the most defended cities in the world (U.S. Air Force 1991, 2). On January 17, 1990, the first wave of stealth fighter-bomber F-117s achieved tactical surprise by dropping precision guided munitions on one of Saddam's air defense control centers in the capital city (U.S. Air Force 1991, 2).

Ultimately, the investment of stealth and precision guided munitions technology yielded aircraft and munitions performance results beyond expectations. However, the investment to support the new technologies yielded disappointing results. After the conflict, the Air Force published a white paper, "Air Force Performance in Desert Storm," which highlighted significant intelligence problems. Of most interest affecting aircraft and munitions performance was erroneous and slow battle damage and combat assessment, incomplete enemy order of battle, and obsolete or insufficient targeting product materials (U.S. Air Force 1991, 14).

The most public incident during the war related to these shortcomings occurred on February 13, 1991, when two F-117s destroyed a civilian bomb shelter mistakenly identified as the Al Firdos command and control bunker (*Washington Post* 1998, 1). The

mishap shut down the air campaign for ten days. The Air Force white paper and mishap shaped targeteer education and training for the remainder of the decade. The Air Force's demonstration of the accuracy of precision guided munitions raised expectations for having no unanticipated collateral damage and civilian casualties in future conflicts.

Conflicts over the ten years following Operation Desert Storm presented opportunities to hone targeting skill sets and precision guided munitions tactics. In 1993, the 497th Intelligence Group at Langley Air Force Base organized targeting responsibilities for education and training and the principle skills for targeteers within Air Force Instruction 14-207, *Air Force Targeting* (U.S. Air Force 1993a, 3).

In 1994, the Air Force created the Combat Targeting Course (CTC) for officers. This course replaced the former targeting officer course that ended in 1992. By 1995, CTC became the mechanism for imparting specialized targeting academics to both officers and enlisted (Cardinale 2011). CTC was a several week long course built on the foundation of military doctrine, Air Force instructions (AFI) and Air Force pamphlets (AFPAM), such as AFI 14-207, *Air Force Targeting*, and AFPAM 14-210, *United States Air Force Intelligence Targeting Guide* (Cardinale 2011).

The first significant opportunity after Operation Desert Storm to apply new targeting skill sets and precision guided munitions tactics was in Bosnia. Operation Deliberate Force was a three-week, North Atlantic Treaty Organization (NATO) air campaign that lasted from August to September 1995. The objective was to protect civilians within United Nations sanctioned ~~safe~~ "safe areas," in Bosnia, after the Bosnian Serb Army shelled a market place in Sarajevo (U.S. Air Force 2002, 1).

Operation Deliberate Force signified the first major air campaign in history in which the majority of bombs dropped from aircraft were precision guided munitions. Of the 1,026 bombs delivered, 708 were precision guided munitions (GlobalSecurity.org 2005, 1). The disproportionate use of precision guided munitions stemmed from the belief that the ordnance would significantly reduce collateral damage and civilian casualties.

Since the campaign lasted three weeks, most of the mission planning was deliberate or preplanned. Thus, it was difficult to assess whether some of the intelligence shortfalls experienced in Operation Desert Storm would have appeared if the conflict had persisted. However, the operation did leave one significant impression with the Air Force. The ability to apply one bomb per target became a reality (Sopko, 1999, 9). Aerial warfare now required even more analysis per target. Unfortunately, the Air Force now had the smallest intelligence workforce since Operation Desert Storm.

Four years later, political tensions in Europe again required military intervention. The tension provided a final opportunity in the 1990s to apply lessons learned from Operation Desert Storm and validate the new Combat Targeting Course. Operation Allied Force was a 78-day air campaign in 1999 to coerce Serbian President Slobodan Milosevic to cease ethnic cleansing in Kosovo and withdraw Serbian military forces from the area. Similar to Operation Deliberate Force, the NATO air campaign primarily employed precision guided munitions to minimize collateral damage and civilian losses.

The Serbian ground based air defense operators were frustrating foes. The Serbs utilized weather, landscape, and political sensitivities against NATO military forces. Poor weather thwarted the use of laser guided munitions and laser guided munitions

represented a large portion of the precision guided munitions inventory. The landscape provided effective camouflage and concealment from NATO intelligence gathering sensors. It was difficult to find the highly mobile Serbian army and their sophisticated Soviet-era air defense systems. Finally, the need to quickly find and track the Serbian military and distinguish the forces from civilian population centers proved daunting. On May 7, 1999, a B-2 stealth bomber dropped three laser-guided bombs on the Chinese Embassy in Belgrade by accident (Perry 2000, 7).

Operation Allied Force concluded with a NATO victory on June 10, 1999, but provided more lessons learned. It became clear that multiple intelligence agencies maintained disparate target databases, maps, and charts. Errors such as the Chinese Embassy bombing pointed to the need to standardize targeting production. The second lesson learned concerned the realization of the dependence on digitally derived information and intelligence in warfare to find and track an elusive enemy. Passing intelligence from “sensor to shooter” became an often used adage to capture the essence of the impact the information age had on aerial warfare. The adage also described the need to push intelligence data quickly to take advantage of a fleeting opportunity to strike a target.

The “sensor to shooter” adage became ingrained in many minds after the shoot down of an F-117 during Operation Allied Force. A key contributing factor that led to the loss of the aircraft was the inability to assess the new location of the surface to air battery that shot down the stealth fighter-bomber at close range (Dsouza 2007, 2). After Operation Allied Force, information warfare gained prominence within military doctrine.

The decision to create the Combat Targeting Course was validated. Targeteers performed well in applying the principles of target production and mission support during the conflict. This was in spite of concerns related to the standardization of targeting data and the sharing of intelligence databases.

However, officers called for more information warfare doctrine within the CTC academics. Senior officers, such as General Casciano (AF/XOI), desired targeteers to consider themselves as information operators. That sentiment entailed a mentality of “pushing and pulling” for intelligence, rather than solely receiving intelligence and building targeting products for aircrew. These thoughts are contained within Casciano’s article “Sentinel Force 2000+” (Casciano 1997).

During the first half of the last decade, the Air Force invested in building its ISR enterprise to enable the “sensor to shooter” adage of pushing intelligence anywhere on the battlefield within minutes. Similar to Operation Allied Force, enemy forces encountered in Operations Iraqi and Enduring Freedom proved elusive and highly mobile. To complicate matters, the enemy was often indistinguishable from civilians and operated within dense population centers.

“Hunting and gathering” became a popular description for ISR operations attempting to locate, track, and gather additional intelligence on enemy forces in Iraq and Afghanistan. A 2005 RAND Paper, “The Next Steps in Reshaping Intelligence,” described how to nurture the hunting and gathering approach toward targeting and ISR operations (Treverton 2005, 22).

Between 2006 and 2010, many intelligence officers began to question the effectiveness of targeting education and training in fighting against a counterinsurgency.

In the thesis, *“Building the Perfect Beast: Proposals to Improve United States Air Force Targeting Training,”* Major Aaron Wilson, the author, stated there was a lack of qualified, experienced targeting instructors and personnel in the Air Force (Wilson 2006, 2). Lack of experience was attributed to force restructuring in the 1990s, the generalization of the officer and enlisted intelligence career fields, and the assignment process (Wilson 2006, 4).

To make targeting education and training more effective, Major Wilson recommended creating an end of course exercise with the ISR Operations Course and the Analysis, Correlation, and Fusion Course at Goodfellow Air Force Base (Wilson 2006, 4). A more extreme option to improve education and training for targeteers called for moving the Combat Targeting Course to Nellis Air Force Base. In Major Wilson’s estimation, Nellis Air Force Base represented the most realistic and relevant tactical training environment for targeteers in the Air Force.

Other officers took a different perspective on education and training. In a *Joint Forces Quarterly* article, *“Change Culture, Reverse Careerism,”* the multiple authors articulated the need to develop strategic thinkers for the Air Force. The article acknowledged the officers of the current generation have more combat experience than previous generations, but noted that those officers have not had the opportunity to think critically about the strategic issues facing the United States. The authors believed the Air Force favored combat experience and tactical success when selecting officers for senior leadership and focused less on the ability to perform analysis and inductive reasoning (Bethel et al. 2010, 87). The paper concluded with several recommendations, to include formalizing critical thinking and analysis within professional military education.

Today, Goodfellow Air Force Base's targeting courses remain the primary means of training new targeteers in the Air Force. The Combat Targeting Course is transitioning into a new course called the Targeting Intelligence Formal Training Unit for officers. The new course addresses targeting in a counterinsurgency environment (Davis 2011). The first wave of enlisted targeteers is now reporting to flying wings and the Air Force Targeting Center. Moreover, the enlisted targeteer has a recent career field education and training plan to define education and training requirements from technical school graduation through retirement. Finally, the Advanced Targeting Course (ATC) is slated for an initial class start date in June 2011 (Davis 2011). ATC is designed for officers and enlisted personnel who have completed at least one targeting assignment.

Since the end of Operation Desert Storm, the Air Force has struggled to adapt training and education for targeteers to the investment in new precision guided munitions delivery methods and technology. During the 1990s, the Air Force steadily increased its reliance on precision guided munitions. The ability to drop one bomb on a single target against elusive and highly mobile enemies required faster processing of raw data by intelligence analysts. Analysis of raw data provided the intelligence to locate, track, and destroy a target within minutes.

As Operations Iraqi and Enduring Freedom unfolded, the definition of a target changed. A target became associated with a point on the ground to image, a signal to listen to, and an enemy to destroy. ISR doctrine codified the new understanding under a "sensor to shooter" and hunting and gathering mentality. However, training targeteers under the new ISR doctrine lagged for many years until the creation of the first enlisted

targeting course and redesignation of the Combat Targeting Course as the Targeting Intelligence Formal Training Unit.

Theme 3: Organizational Structure

Over the years, organizations have either been retired, redesignated, or created to more effectively manage, train, and educate targeteers and conduct the targeting mission. Presently, the Air Force Deputy Chief of Staff for ISR maintains authority over directing the strategic targeting vision. At the operational level, Air Combat Command's Intelligence Directorate is the focal point for Air Force targeting issues.

After Operation Desert Storm, the Air Force published a series of pamphlets and instructions to codify targeting expertise, reestablish a targeting infrastructure, and steer education and training. Air Force Policy Directive 14-2, *Intelligence, Collection, Production, and Application*, defined targeting responsibilities and terms (U.S. Air Force 1993b). Linked to the 1993 Directive was Air Force Instruction (AFI) 14-207, *Air Force Targeting*.

AFI 14-207 delineated targeting organizational roles and responsibilities. For most of the 1990s, the 497th Intelligence Group at Langley Air Force Base directed and implemented Air Force targeting policy in accordance with guidance from the Director of Intelligence, Surveillance, and Reconnaissance (ISR), Air and Space Operations (AF/XOI). Moreover, the Group's function was to also standardize all targeting guidance and maintain expertise for contingency and crisis operations (U.S. Air Force 1993, 2).

While the 497th Intelligence Group was the nexus for most Air Force targeting operations in peacetime, Air Education and Training Command was the office of primary responsibility for executing targeting training. As a matter of practice, the Air Combat

Command routinely gathered requirements from the major commands and then created courses, such as the Combat Targeting Course in 1994. Course curriculum was also created using a number of targeting pamphlets, such as *An Introduction to Air Force Targeting* and the classified *Targeting Intelligence Handbook* (U.S. Air Force 1993c, 1). Goodfellow Air Force Base served as the primary location where the Air Force sent enlisted and officers for targeting education and training.

During wartime operations in the 1990s, the Air Force used a centralized command and control center construct. In Operation Desert Storm, General Charles Horner directed the air campaign from a tactical air control center (Christian and Dillard 2000). The tactical air control center evolved into an air and space operations center (AOC) used in Operation Allied Force. There, most of the targeting support was accomplished either domestically or from the Balkans AOC in Vicenza, Italy.

Incremental changes to the AOC organizational design construct have occurred over the last several years. However, it is functionally the same organization it was in the late 1990s. Multiple divisions represent different air and space capabilities used in creating and executing an Air Tasking Order (ATO). An ATO is the fundamental product used to generate air combat sorties. Air Force Instruction (AFI) 13-1AOCV3, *Operational Procedures, Air and Space Operations Center*, identifies the purpose and conduct of an AOC (U.S. Air Force, 2005, 5). The AFI also articulates the roles and responsibilities of a targeteer within the AOC (U.S. Air Force 2005, 12).

While the AOC evolved only incrementally, intelligence organizations evolved at a revolutionary pace in the early 2000s. In 2003, the 480th Intelligence Wing was activated. The event signified a transition in targeting roles and responsibilities from the

497th Intelligence Group into the new Wing. Contained within the 480th Intelligence Wing, the 480th Intelligence Group represented the bulk of targeting expertise in the Air Force. The Group conducted specialized certification training on targeting systems and produced unique target and mission planning products.

The Air Force used the next three years through 2006 to launch the Air Force Transformational Flight Plan Initiative and ISR Vision. As mentioned before, these two endeavors were focused on building an ISR fleet and fielding more precision guided munitions for the latest generation of fighter and bomber aircraft (U.S. Air Force 2003, viii). However, with the reduction in force during the 1990s, and a new round of cuts to manpower and the Air Force budget via Program Budget Decision 720, the Service lost the means to execute new strategic initiatives and maintain the targeting core competency (Troyer 2007).

A major piece of the ISR Vision was the alignment of Air Force ISR capabilities under a single organization. Originally conceived as an ISR major command, the Air Intelligence Agency (AIA) reorganized as a field operating agency reporting to the Air Force Deputy Chief of Staff for ISR (U.S. Air Force ISR Agency 2011). In 2007, AIA became the Air Force ISR Agency (AFISRA). A year later, the 70th and 480th Intelligence Wings became ISR Wings under the AFISRA. During this time, most of the targeting capabilities moved under Air Combat Command. With the transition, the 480th Intelligence Wing maintained most of the Air Force targeting expertise.

While General Deptula was implementing his ISR vision as the Deputy Chief of Staff for ISR, he was surprised to receive a scathing report on the state of Air Force targeting (Rolirad 2011). In the 2008 Greybeard targeting study, the researchers produced

evidence of several organizational challenges within the Air Force targeting community. It appeared the Air Force lessened its oversight of targeting while executing its Transformational and ISR Vision.

The first piece of evidence stated the 480th Intelligence Group served as the de facto Air Force targeting center of excellence without strategic guidance and direction (SAIC 2008, 9). Over time, the 497th Intelligence Group transferred targeting responsibilities, originally outlined in AFI 14-207, to the 480th Intelligence Group. Air Force instructions and policy failed to codify the change. Moreover, it was assumed across the Air Force that the 480th Intelligence Wing had vast targeting expertise since it possessed a robust targeting mission.

The study also stated the Air Force had little to no strategic oversight over the targeting enterprise. This evidence was attributed to reduced manning and Headquarters Air Force, Air Staff, restructuring. Moreover, the researchers indicated that lack of strategic oversight was a problem within the Department of Defense. The study reflected on how the joint targeting effort was fragmented (SAIC 2008, 6). During the last decade, each COCOM became isolated by geographic focus and executed its own targeting processes with guidance from the Chairman of the Joint Chiefs of Staff Directorate for Intelligence. The result of this relationship was a lack of standardization for training, targeting systems, and the development of realistic and executable operational plans (SAIC 2008, 7).

After receiving the report, General Deptula directed an Air Force “tiger team” to examine the Greybeard study’s findings and recommendations (Deptula 2008). The General approved several organizational changes to alleviate the targeting problem.

Specifically, he reinvigorated the Headquarters Air Force Directorate for Intelligence by giving the organization more authority over Air Force targeting issues. At the operational level, he reaffirmed Air Combat Command as lead over Combat Air Force targeting issues. The General also redesignated Air Combat Command's Combat Targeting and Intelligence Group (CTIG) as the Air Force Targeting Center in 2009. These changes are reflected within Air Force Instruction 14-117, "Air Force Targeting" (U.S. Air Force 2009a, 1).

General Deptula's directives to resolve the Greybeard targeting study's findings and recommendations are ongoing. Today, the strategic direction for targeting flows from the Air Force Deputy Chief of Staff for ISR's staff to Air Combat Command and the Air Force Targeting Center. During combat operations, each COCOM uses an AOC for creating an Air Tasking Order and providing targeting support. Additionally, the Air Force Targeting Center provides reachback support to the COCOMs and AOCs for preplanned contingency and crisis operations (U.S. Air Force 2009a, 1). Goodfellow Air Force Base still represents the primary location to train Air Force targeteers. The Air Force Targeting Center's subordinate organizations continue to provide specialized targeting certification and products (Pratzner 2011).

Conclusion

This chapter offered a comprehensive review of the sources used to provide a theoretical understanding of the research questions posed in chapter 1. The review surveyed a multitude of sources along three themes: force management, education and training, and organizational structure. Further, the themes included a chronological narrative to put the sources into context.

Gaps and Trends in the Record

Very few sources exist within the last decade to describe the role of an officer within the targeting process. This gap is evident given the period of major transformation in Air Force intelligence in translating ISR doctrine into force management, education and training, and organizational policy. There is also very little in the record to advocate for the existence of a targeting officer. Most of the dialogue contained within the source material pertains to Air Force targeting in a broad sense, with some fidelity lent to the advocacy for an enlisted targeteer.

Most written sources between 2003 and 2008 pertain to the implementation of General Deptula's strategic ISR Vision, the fielding of new ISR sensors, and reorganizing intelligence organizations. However, after the 2008 release of the Greybeard targeting study, senior intelligence officers coalesced on Air Force targeting issues; there is extensive source material on strategic decisions made to regain mastery of the targeting core competency.

Significance of Thesis in Relation to Existing Literature

Air Force senior leaders have invested significantly in re-mastering the targeting core competency. The creation of the Air Force Targeting Center and the enlisted targeteer reflect the Air Force's desire to invest where required. Considering a targeting officer makes sense given the historical narrative. Since little has been written on the subject, this paper serves to provide senior leaders with additional data for making strategic force management, education and training, and organizational decisions.

CHAPTER 3

RESEARCH METHODOLOGY

Qualitative research is based on understanding how people interpret their experiences and find meaning in their everyday lives based on these experiences (Merriam 2009, 5). In this work, the author used a systematic process of conducting qualitative research to understand how Air Force intelligence professionals interpreted their targeting experiences and found meaning in the application of targeting based on their experience.

Qualitative Research Techniques

The author used inductive reasoning from written sources and oral history interviews to describe the data in broad themes (Merriam 2009, 15). Next, the author analyzed the data within the themes, portraying the outcome of the analysis in a descriptive narrative. Detailed narrative description enabled the author to convey accounts from written sources and oral histories within a chronological context. The analysis led to an interpretation of the data, which enabled the construction of useful findings and recommendations.

Interpretation of data was based on a constructivist mindset and reflected one version of reality based on the author's experiences, and written and oral history sources. Constructivism acknowledges that bias exists in most sources. Rather than discarding data from sources, the author maintained awareness of bias when constructing a version of how some intelligence professionals perceive the benefit of creating specialized targeting officers (Clark 1999).

Research Questions

The primary research question steering the research was: Is there a benefit for the Air Force in creating specialized company grade targeting officers?

Secondary questions used to answer the primary question were:

1. What are the historical and present views on specialization versus generalization for targeteers; what is the impact on promotion rates?
2. How should the Air Force manage intelligence officers with targeting experience?
3. How is the career field educating and training its officers to perform within the targeting process?
4. What policy and organizational changes, if any, are recommended for officers?

Measurement Strategy

Unclassified written sources and oral history interviews were used to construct an interpretation or perception from intelligence professionals on the topic of creating specialized company grade targeting officers. Written sources provided historical information on views concerning specialization, impact to promotion rates, how to manage and train targeteers, and policy and organizational decisions. Oral history interviews deepened perspective on the historical narrative concerning the impact of creating targeting officers.

The author described the written sources within a historical narrative divided among three themes in Chapter 2, “Literature Review.” The three themes were force management, education and training, and organizational structure. The research questions are linked to one of the themes for comparative analysis in Chapter 4, “Analysis.”

Sampling Plan

This author gathered data using nonprobability sampling since the findings and recommendations are based in qualitative research methodology. Nonprobability sampling “discovers what occurs, the implications of what occurs, and the relationship linking occurrences” (Merriam 2009, 77). Thus, the author used a historical narrative to describe the themes associated with force management, education and training, and organizational structure. Then the themes were assessed and interpreted to understand the impact to Air Force targeting and the benefit of creating targeting officers.

A common form of nonprobability sampling is purposeful sampling. Purposeful sampling provides precise data related to the specific research questions. To avoid receiving uneducated opinions, subjects for oral history interviews were selected according to the following sampling criteria: (1) At least 8 years in the Air Force for military members, (2) A minimum of one intelligence assignment served at the wing or unit level associated with a targeting mission for military members, and (3) Training Managers or at Headquarters Staff-level for civilians.

The author requested interviews with the following intelligence professionals:

Colonel Michael Flaherty: Deputy Director for Intelligence, National Joint Operations Intelligence Center, Pentagon

Colonel Anthony Lombardo: Military Assistant to the Deputy Secretary of Defense for Intelligence, Pentagon

Colonel Monica Midgette: Chief, ISR Forces, ISR Force Management and Readiness Division, Headquarters Air Force, Pentagon

Colonel Philip Pratzner: Commander, Air Force Targeting Center, Air Combat Command, Langley Air Force Base

Colonel Christopher Stafford: Deputy Director of Intelligence, Operations, and Nuclear Integration for Technical Training, Air Education and Training Command, Randolph Air Force Base

Colonel J. D. Willis: Commander, 17th Training Group, 17th Training Wing, Goodfellow Air Force Base

Lieutenant Colonel Karen Rolirad: Commander, 315th Training Squadron, 17th Training Group, Goodfellow Air Force Base

Major John Davitt: Director of Operations, 24th Intelligence Squadron, Ramstein Air Base

Major Charles Freel: ISR Forces, ISR Force Management and Readiness Division, Headquarters Air Force, Pentagon

Major Trevor Gersten: Intelligence Officer Assignments Team, Air Force Personnel Center, Randolph Air Force Base

Major Ryan Oneal: Senior Intelligence Officer, 4th Operations Group, 4th Fighter Wing, Seymour Johnson Air Force Base

Major David Quinene: Director of Operations, 315th Training Squadron, 17th Training Group, Goodfellow Air Force Base

Captain Erwin Mason: Chief, Intelligence Deployments Scheduling, Air Force Expeditionary Operations Center, Randolph Air Force Base

First Lieutenant Christopher Cardinale: Instructor, Combat Targeting Course, 315th Training Squadron, Goodfellow Air Force Base

Second Lieutenant Rick Slater: Interim Course Chief, Intelligence Officer
Fundamentals Course, 315th Training Squadron, Goodfellow Air Force Base

Master Sergeant Blaine Schultz: Course Chief, Geospatial Intelligence Targeting
Course, 315th Training Squadron, Goodfellow Air Force Base

Master Sergeant Wilcox: Interim 17th Training Wing Historian, 17th Training
Wing, Goodfellow Air Force Base

Technical Sergeant Andrew Buller: Course Chief, Geospatial Intelligence Course,
315th Training Squadron, Goodfellow Air Force Base

Technical Sergeant Christopher Lyons: Non-Commissioned Officer in Charge,
Intelligence Officer Fundamentals Course, 315th Training Squadron, Goodfellow Air
Force Base

Staff Sergeant Philip Drum: Non-Commissioned Officer in Charge, Advanced
Courses Flight, 315th Training Squadron, Goodfellow Air Force Base

Mr. Tom Cacy: Intelligence and Air Operations, Headquarters, Air Education and
Training Command, Randolph Air Force Base

Mr. Jim Davis: Training Manager, 315th Training Squadron, Goodfellow Air
Force Base

Mrs. Sherry Hernandez: Intelligence and Air Operations, Headquarters, Air
Education and Training Command, Randolph Air Force Base

Mrs. Becky Kafer: Training Manager, 315th Training Squadron, Goodfellow Air
Force Base

Mr. William Roche: Chief, Air Force Targeting Branch, Targeting & GEOINT
Division, Pentagon

Mr. Jason Thompson: Former ISR Operations Course Chief, 315th Training Squadron, Goodfellow Air Force Base

Data Collection Instrument

Most of the oral history interviews were either semi-structured or highly structured, depending on the experience and seniority of the interviewee. All interviews began with an overarching description of the research, citing the research questions, and articulating the purpose of writing the paper. Then, the interviewee was asked to provide a personalized historical perspective on Air Force targeting. After listening to several minutes of open ended thoughts from the interviewee, the author asked specific questions related to the primary and secondary research questions. The interviews concluded by ensuring the participants had responded to the primary and secondary research questions.

The interviews consisted of several types of questions. A researcher can use at least six types of qualitative interview questions. They range from experience, opinion, feeling, knowledge, sensory, and background (Merriam 2009, 96). The preponderance of the interview questions used by the author were experience, opinion, and background based. For example, one question to a senior officer asked the interviewee about his experience working with targeting officers during Operation Allied Force. Another question was posed to an instructor to ascertain the number of years he had worked as a targeteer. Overall, the interview questions were designed to provide descriptive data or an open ended narrative (Merriam 2009, 99). To solicit such a response, a few questions started off with the phrase, “Can you tell me about the time . . . or what was it like to be deployed as a targeteer.”

Occasionally, a “devil’s advocate” question was asked when discussing controversial material. The aim of the question was not to embarrass or marginalize the response to a question, but to ensure the meaning behind the response was captured. Many of the devil’s advocate questions started off with the phrase, “Other senior officers have said.”

The interviews were either audio recorded, hand-written, or conducted by electronic mail. The audio recorder was the preferred instrument, giving the ability to preserve the contents of the interview in detail. Audio recordings also allowed for a more open ended discussion, with a more natural flow of perspectives ensuing.

Hand written notes were used when conducting interviews in a classified workplace. These interviews tended to be more regimented and highly structured, although no classified data is included in this work. The author attempted to capture the essence of the interviewees’ thoughts when using hand written notes. When not understood, the author repeated questions or sent follow-up emails to clarify a point.

Electronic mail was the least preferred method of conducting interviews. While convenient to pose highly structured questions, there was less ability to ask follow-up questions. A series of electronic messages was sent to interviewees in a deployed setting since most did not have time to answer multiple questions in one session.

Ethical Considerations

When scheduling interviews, the author contacted the interviewees and explained the scope and purpose of the research paper. The interviewee was informed that the author desired their expertise in providing qualitative data for findings and recommendations associated with the research questions. To avoid bias, the author

attempted to avoid referencing other individuals interviewed unless those individuals had been given prior warning. All participants in the study understood the essence of the qualitative research was not to find a single solution to the problem, but to provide various perspectives about Air Force targeting officers.

Validity and Reliability

The author used a combination of peer review, triangulation, and respondent validation techniques to ensure the findings and recommendations were based on accurate data. First, chapter drafts were sent to peers deemed knowledgeable on the subject of Air Force intelligence and targeting. The peer review proved invaluable in examining the study from an objective standpoint and providing constructive feedback.

Triangulation was a second technique used to enhance the credibility of research by comparing and cross checking data from multiple sources (Merriam 2009, 216). Thus, the author used a combination of written and oral history sources. Interviewees were selected from a pool of intelligence professionals working at strategic to tactical level organizations. The interviewees represented a vast array of experiences. Some of the individuals were senior officers, senior civilians, and former commanders. Others are Air Force Weapons Officers, instructors, enlisted professionals, and historians. When data from the various written and oral history stories coincided with the same response, the data was deemed valid and reliable. Data outside of the average response was considered an outlier. However, outlier data is useful in establishing the extreme limits that defined the data set.

Last, in seeking respondent validation, feedback on the findings and recommendations was solicited from the interviewees (Merriam 2009, 217). Respondent

validation helped alleviate any misinterpretation of responses and offered an opportunity to change or amplify a perspective. This final technique proved critical since qualitative research represents a person's feelings or interpretation of an event.

Summary and Conclusions

Chapter 4, "Analysis," links the descriptive historical narrative based on written sources with a description and analysis of the oral history interviews. Chapter 5 interprets the findings and synthesizes them into a set of recommendations in determining if there is a benefit in creating specialized Air Force targeting officers.

CHAPTER 4

ANALYSIS

The historical narrative in chapter two described a period of rapid transformation for the Air Force after Operation Desert Storm. Lessons learned from conflicts in the 1990s became codified within doctrine. Doctrine led to new concepts. Phrases such as “sensor to shooter” and “~~h~~unting and gathering” represented a changing Air Force culture determined to field new digitally dependent technologies in an effort to deliver actionable and timely target information.

By the early 2000s, the Air Force faced a strategic problem. The Service was involved in two low intensity conflicts and struggled to balance the requirements for future conflicts. To address the strategic problem, the Air Force published a Transformational Flight Plan in 2003. The strategic document sought to define a mix of capabilities for major to small-scale combat operations (U.S. Air Force 2003, 1). Within the document, the Air Force reaffirmed its commitment in using precision guided munitions to reduce collateral damage and eliminate civilian casualties (U.S. Air Force 2003, vii).

Over the next several years, the ability of intelligence professionals to support the employment of precision guided munitions fell short of requirements as targeting skills slowly eroded in favor of developing other skill sets. In response to recent studies identifying manpower and targeting expertise shortfalls, the Air Force created the enlisted targeteer and the Air Force Targeting Center.

To participate in the ongoing dialogue, the author conducted a qualitative study to address a single question: Is there a benefit to the Air Force in creating specialized

targeting officers? Research focused on three themes to answer this question. Those themes were force management, education and training, and organizational structure. To obtain relevant data, the author used four secondary research questions.

This chapter provides findings by describing and assessing qualitative data. The data is categorized by secondary research questions and by themes. Chapter 5 provides recommendations and conclusions in determining if there is a benefit to the Air Force in creating targeting officers.

Theme 1: Force Management

This subchapter describes and analyzes data from written sources and interviews pertaining to force management. Two secondary questions were used to steer data collection. Those questions were: (1) What are the historical and present views on specialization versus generalization for targeteers; what is the impact on promotion rates, and (2) How should the Air Force manage intelligence officers with targeting experience?

Specific categories of data began to emerge while gathering information pertaining to these secondary questions. The categories were a professional development plan, deployments, and utilization of prior-service targeting expertise.

Professional Development Plan

In the early 2000s, the Air Force sponsored at least two Research and Development Corporation (RAND) force management studies to understand why intelligence was historically undermanned at all ranks, to include general officer ranks. Findings and recommendations from the studies included implementing a professional development plan, specifying specific roles and responsibilities for lieutenants, and

seeking a balance between acquiring breadth and depth as a company grade officer (Galeway et al. 2005, 48). The studies also found officers were discouraged from multiple assignments in one professional competency, such as targeting, since the perception was it hurt chances for promotion (Galeway et al. 2005, 48).

Every respondent interviewed had the perception that there is no formal professional development plan for company grade intelligence officers (Stafford 2011). Moreover, the findings and recommendations contained within the RAND studies previously mentioned remain valid. The perceived impact of the absence of a development plan varied based on respondents' years in service and position.

Senior officers and civilians believed a professional development plan, with balanced breadth and depth of expertise, is critical for building a pool of competitive officers for senior positions within combatant commands (COCOMs) and major commands (MAJCOMs) (Rolirad 2011). As one senior civilian stated, "There is no purposeful development plan for intelligence officers. Training and experience take time and it is not happening in an organized manner" (Hernandez 2011). Thus, it is difficult to achieve a goal of developing more intelligence general officers without a development plan that guides an individual from technical school graduation until retirement.

All senior officers and civilians were open-minded in considering the creation of a specialized targeting officer. However, given the current constraints on the budget and pending manpower cuts, it seemed more useful to develop an officer adept at critical thinking and analysis for the Air Force (Stafford 2011). Additionally, senior respondents perceived the demand for a specialized targeting officer was low.

Major Trevor Gersten, whose duties include intelligence officer assignments at the Air Force Personnel Center, lent further credence to the notion that there is little demand for a targeting officer (Gersten 2011). Major Gersten stated the majority of his personnel requirements represent ISR operations and flying unit level. Further, with manpower shortfalls at the Captain and Major ranks, the ability to source targeting officer positions is not even optimal.

Junior officers and enlisted targeteers perceived the value of a career development plan on a more personal level. All the company grade officers interviewed stated a plan is critical for achieving individual career goals. Those goals ranged from becoming a general officer to retiring at 20 years of service. In addition, many of the junior officers expressed frustration with having to figure out the next step in their career by asking mentors, preferring a written development plan.

When asked if the Air Force needs a targeting officer at the wing level, at least half of the junior officers believed there was a benefit in having an officer with multiple years of targeting experience. However, the other half of the junior officers viewed multiple assignments as an opportunity to increase understanding of the Air Force mission and preferred the generalization of officers (Slater 2011). None of the junior officers commented at length about budget and manpower shortfalls affecting their stance on creating targeting officers.

Enlisted targeteers perceived that a professional development plan helps to ensure the most qualified officer fills a targeting assignment. All of the enlisted respondents were aware of the current policy of generalization of officers rather than specialization. Further, the enlisted targeteers knew the process of developing an officer involved

multiple different assignments every few years. Most respondents were unaware of a particular assignment being more beneficial than another. One targeteer summed up a common enlisted perception of the officer assignment process by stating, “A targeting assignment is just one of many assignments to check a box for promotion” (Bullard 2011). As the author interviewed more senior targeteers, the perceived need for a specialized targeting officer diminished while the need for skilled enlisted targeteers increased (Schultz 2011). This viewpoint stems from the belief that an officer’s primary function is to lead and manage enlisted professionals and organizations.

When the author asked the respondents to articulate the ideal professional officer development plan, the details fell within three options. The first option favored using the space officer professional development plan as a template. At least 75 percent of senior officers and civilians interviewed found merit in modeling the plan for intelligence officers as recommended by the 2009 RAND study, “Improving Development and Utilization of U.S. Air Force Intelligence Officers” (Brauner et al. 2009, 1). The respondents favoring the space officer approach believed it provided a logical construct for grooming intelligence officers from technical school graduation to general officer (Willis 2011). The most effective part of the plan is the matching of jobs to education and training requirements. With each job, an officer gains an experience code. This process makes it easier to define what an Air Force intelligence officer is to the joint community (Willis 2011). See figure 3 for a graphical depiction of a portion of assigning special experience codes to jobs.

Space Professional Experience Codes (SPECs)		
[A – Acquisition O – Operations S – Staff] – General Duty Category		
[A-J] – Mission Code		[0-9] – Experience Identifier
A – Satellite Systems	E – Space Control	Space Test/Val, Educ and Trng
0: Multi Systems Knowledge	0: Multi Systems Knowledge	0: AETC/AF General Instructors
1: Sat C2	1: Ground Based Surveillance	1: Student Time
2: MILSATCOM	2: Space Based Sit. Awareness	2: IGT Student Time
3: PNT	3: Optical Surveillance	3: Test
4: AFSCN	4: Fusion Centers	4: MAJCOM/NAF Training Shops
5: Orbit Analysis	5: Space Control Ops	5: IG/OGV
B – Nuclear	F – ISR	6: AFOTEC
0: Multi Systems Knowledge	0: Multi Systems Knowledge	7: AFTAC
1: Missile Systems	1: Environmental Monitoring	J – Space Staff
2: Missile Maintenance	2: SBR	0: Executive Officers
3: Missile Testing/Technology	3: Other	1: Assignments
C – Space Lift	G – Kinetic Effects	2: Joint
0: Multi Systems Knowledge	0: Multi Systems Knowledge	3: Safety
1: Range Systems	1: Missile Defense	4: Program Element Monitor
2: Launch Systems	H – Space Warfare C2	5: Plans and Programs
3: SLEC-P	0: Multi Systems Knowledge	6: RD
4: Spaceflight	1: Space AOC	7: Info Ops
D – Warning	2: Theater AOC	8: Other
0: Multi Systems Knowledge	3: SIDC (SWC)	
1: Ground Based Systems	4: SOF	
2: Space Based Systems	5: Near Space	
3: Fusion Centers		

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Figure 3. Space Professional Experience Codes
 Source: Lt Col Karen Rolirad, Electronic correspondence with author, 20 March, 2011.

The second option for a professional officer development plan is currently in draft within the Headquarters Air Force Staff and was presented to the Intelligence Masters Skills Course at Goodfellow Air Force Base in March 2011. Major Charles Freel, assigned to the Headquarters Air Force Staff, works Air Force intelligence officer force management issues. Major Freel proposed a development plan that resembled the space officer development plan. Major Freel acknowledged two key aims (Freel 2011). The first is to groom future general officers for senior intelligence positions on a COCOM staff. For years, studies and articles have noted the lack of intelligence officers filling senior intelligence positions within the joint community. The second aim is to ensure each intelligence core competency, such as targeting, is adequately represented across the intelligence officer corps.

Major Freel's plan proposed the possibility of creating two career tracks, "open" and "closed" (Freel 2011). The open track is the career path for most officers. It favors breadth of experience over depth and closely resembles the generalist career path used today. In an open track, the officer is encouraged to take an assignment in a different professional competency from the previous assignment (Freel 2011). For example, an officer would gain experience in targeting during an initial assignment and then gain experience in ISR operations during the second assignment. Each subsequent assignment increases the officer's scope of responsibility.

The closed track is the career path for a small portion of officers. It favors depth of experience over breadth and is a departure from the generalist career path. In a closed track, the officer is encouraged to seek "back to back" assignments within the same professional competency (Freel 2011). For example, an officer would gain experience in targeting during an initial assignment, and then seek another targeting related assignment, but with increased scope of responsibility.

The last proposed professional officer development plan option came from a single enlisted targeteer. The targeteer suggested creating two categories of officers. The first category is "wing level operations" and the second category is "ISR operations." The respondent believed all intelligence jobs fall within one of the two categories, and a company grade officer could spend the first ten years of a career gaining depth in either of the two categories. While building depth, the officer would increase his scope of responsibility (Lyons 2011). This proposal closely resembles the three broad categories of intelligence officers in the mid 1990s.

Regardless of the option chosen, the Air Force has created a new tool for implementing an officer development plan, serving both strategic decision making and individual needs. Using the Air Force Career Path Tool, the career field manager can communicate with COCOMs and MAJCOMs and articulate the career field's ability to meet current and future manpower requirements (Freel 2011). For individuals, an officer can access the tool and view the various types of jobs available to the officer by rank, and can determine the skills required to fill those jobs (see figure 4). The tool also provides mentors the ability to advise officers on ideal future assignments to increase promotion potential.

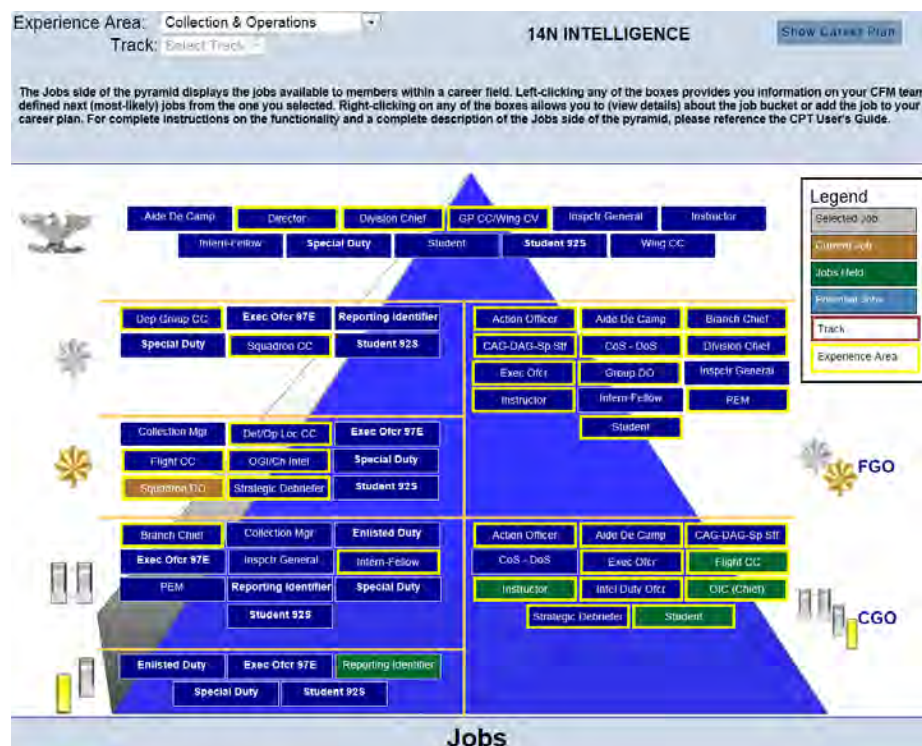


Figure 4. Sample Air Force Career Field Path Tool

Source: U.S. Air Force, "Intelligence Career Path Tool," <https://afvec.langley.af.mil/af-cpt/Pyramid/EmbeddedPyramid.aspx> (accessed 3 May 2011).

Deployments

While not considered a foundational element of a professional development plan according to Air Force force management doctrine, all respondents believed deployments were an integral part of developing officers. Senior officers often consider an individual's number and type of deployments for providing formal mentorship (Gersten 2011).

According to one respondent, deployments allow an officer to gain experience three times as fast as remaining at a home unit for the same span of time (Freel 2011). The career field manager is trying to determine how to quantify deployment experience and integrate deployments into the professional development plan (Freel 2011).

At least half of the respondents believed officers should deploy in a targeting capacity. However, senior officers expressed caution in deploying officers with experience in non-targeting roles since it is highly disruptive to the home unit to first lose an officer to a deployment and then have to recertify the officer in targeting upon returning to home station (Praztner 2011). Some of the enlisted targeteers interviewed expressed a desire for qualified and experienced targeting officers in a deployed environment. According to one enlisted targeteer with experience at the COCOM and MAJCOM level, deploying an officer as the Chief of Targets at an Air and Space Operations Center with no prior targeting experience is a hindrance to the mission (Lyons 2011).

The respondents favoring officers deploying in a non-targeting capacity believed new jobs provide broader experiences to increase an overall understanding of the Air Force mission (Schultz 2011). In counterinsurgency warfare, the respondents felt it was acceptable to afford the risk of allowing deployments to fill experience deficiencies.

However, when the author asked these respondents if the same sentiment held true during major combat operations, all respondents agreed the risk of using an inexperienced targeting officer was unacceptable. Major combat operations require an officer with multiple years of targeting experience if filling critical positions, such as the Chief of Targets at a flying wing or Air and Space Operations Center (Cardinale 2011).

Captain Erwin Mason at the Air Force Expeditionary Center addressed several of the deployment concerns posed by the respondents. For 180-day deployments, he stated there are more deployment requirements than available officers and the vast majority of deployment requirements are based on ISR operations and collection management experience.

To determine the likelihood of an officer deploying, the Expeditionary Center uses several criteria. The criteria include number of short tours, short tour return date, the number of individual deployments, and an officer's home unit (Erwin 2011). None of these criteria account for an officer's suitability for a particular deployment. Thus, it is very possible for officers with targeting experience to deploy in a non-targeting capacity.

Another key reason why officers deploy in areas outside of their primary duties is due to "reclamas." Reclamas are requests by a home unit to keep an officer from deploying based on critical mission requirements, humanitarian needs, or similar justification. As many as 40 percent of all deployments fall within the reclama category. Reclamas cause another unit to pick up a deployment requirement and give an officer short notice to deploy. In a reclama situation, at the wing or unit level, the most available officer, not the most qualified, tends to deploy (Quinene 2011).

Ultimately, tailored deployments or “by name requests” for company grade officers are rare. A relatively new deployment process, called institutional force tasking, allows field grade officers above the wing staff level an opportunity for tailored deployments and is meant to alleviate some of the company grade officer deployment burden (Mason 2011).

Utilizing Prior Service Expertise

Goodfellow Air Force Base graduates several hundred new intelligence officers every year to meet ISR surge manpower requirements. Many graduates are reporting to Air Force Distributed Common Ground System assignments to gain skills in ISR operations (Slater 2011). A disproportionately fewer graduates are reporting to wing level assignments to gain expertise in targeting (Kafer 2011). However, a large number of new prior service officers have targeting experience.

Graduates from the Intelligence Officer Fundamentals Course are given assignments based on several criteria. Some of the more heavily weighted criteria are academic achievement, leadership, teamwork, and personal preference (Slater 2011). Before receiving an assignment, instructors make an assignment recommendation to the squadron commander for approval. This process is conducted in close accordance with the intelligence assignments team at Randolph Air Force Base. Using the criteria mentioned and the mentality of favoring breadth over depth, most prior service officers are currently given assignments unrelated to their prior enlisted experience (Slater 2011).

When speaking with prior service targeteers and enlisted targeteer instructors, almost all favored the prospect of continuing to work in a targeting capacity as a new officer (Bullard 2011). Those respondents perceived a benefit in utilizing officers with

prior targeting experience for leading and managing enlisted targeteers and targeting organizations. Moreover, since officers are promoted to Major at ten years, the respondents felt that using prior targeting skills enabled the Air Force to smartly build a specialized company grade officer targeting capacity out of existing talent (Cardinale 2011).

When broaching with senior officers the idea of building targeting capacity with the experience of prior service officers, most expressed caution. While the notion of using prior service targeteers to build capacity was intriguing, many senior officers stated it should be executed on an individual basis. There was only a slight variation on the reason for caution. Most believed in the need to expose as many officers as possible to ISR operations. Additionally, the senior officers believed the Air Force would benefit more from an officer grounded in critical thinking and analysis (Stafford 2011). Such an officer would then be in a position to develop other skills, such as targeting.

Force Management Findings

This section presents force management findings. The author derived four findings by analyzing data grouped within three distinct categories. The categories were a professional development plan, deployments, and utilization of prior-service targeting expertise.

Finding #1. Air Force senior intelligence officers and civilians advocate for generalization over creating a specialized targeting officer.

The author's interviews highlight a growing consensus across the Air Force that the nature of targeting is changing from dropping ordnance from an aircraft to now include using intelligence gathering sensors to locate and track a target via video, camera,

audio, and other means. The evolution of the targeting construct requires an officer to visualize the operational environment, or battlefield, and intuitively know what task to apply against a target. As stated before, the trend is to fight in urban environments where the threshold for collateral damage and civilian casualties is extremely low and conventional targeting is often not possible or effective in meeting strategic and operational objectives.

Senior officers and civilians are placing faith in the ability of the enlisted targeteer and targeting organizations, such as the Air Force Targeting Center, to enable the Air Force to regain mastery of critical targeting skills. The new role of an intelligence officer is not to demonstrate proficiency in a specific skill set, such as targeting, but to critically think and analyze. Former targeteers believe that targeteers have always possessed the ability to critically think and analyze. While this is true, the ability to intuitively know what task to use against a target, beyond dropping ordnance, was not reinforced or emphasized in past versions of the Intelligence Officer Fundamentals Course and Combat Targeting Course, or in written sources the author reviewed.

Finding #2. The Air Force does not have a professional officer career development plan to groom company grade officers for senior leadership.

The stated goal, according to most senior respondents, to have a professional officer career development plan is to build future intelligence general officers and groom company grade officers for squadron command. This goal coincides with Lieutenant General Deptula's "ISR Flight Plan" implemented in 2009. While the Air Force has promoted a handful of intelligence colonels to general officer, respondents still

maintained a desire for a plan for continued success in creating a pool of officers competitive for promotion.

It is likely the Air Staff will adopt a professional officer career development plan closely resembling the space officer or ISR professional officer (IPRo) format. This assessment is likely since the new Air Force Deputy Chief of Staff for ISR, Lieutenant General Larry James, is a space officer and several key general officers, such as Major General James Poss, reside on the Headquarters Air Force Staff and are IPRo advocates. Moreover, there are at least two RAND studies recommending the career field adopt such career development plans. There is also recent support from professional journals and professional military education school papers.

Finding #3. The Air Force is not leveraging deployments for building either depth or breadth for company grade intelligence officers.

The author believes this finding will remain true as long as there is no professional officer career development plan. A plan can identify types of deployments useful in building depth or expertise. Without the linkage between deployments and a development plan, the deployment process is reactive at best. This causes commanders and individual officers to express frustration at the perceived lack of meaningful deployment experience.

The reclama process will remain part of deployments. Reclamas undermine the ability to match the right officer to the right deployment. In addition, reclamas limit the flexibility in ensuring officers receive education and training for deployment success. A contributing factor causing deployment concerns is related to a COCOM staff's willingness to waive deployment education and training requirements to ensure any

officer is available. Waiving education and training only exacerbates the negative effects of the reclama process by sending an unprepared and often rushed officer on a deployment.

Finding #4. The Air Force is not effectively using prior enlisted service targeting expertise to lead and manage enlisted targeteers and organizations at the company grade officer level.

Every officer and civilian respondent understood the urgent need to quickly build depth as a company grade officer since officers are getting promoted to Major in just ten years. As one senior officer stated, “You have one less assignment that I did” (Pratzner 2011). Analysis indicated there is a sufficient pool of prior service officers with targeting experience that desire to remain in a targeting capacity for at least one assignment as an officer. Moreover, most prefer to do so during their first assignment since targeting is a perishable skill.

The Intelligence Assignments Team at the Air Force Personnel Center indicated there are few requirements for officers with targeting experience compared to a need for experience in ISR operations or collection management, signals intelligence, or imagery. Thus, the mentality is to fill the most urgent requirements first and address the lower priorities last. For example, during the author’s visit to Goodfellow Air Force Base, an intelligence class of at least thirty officers was preparing to receive their first assignment. 90 percent of the assignments were to an Air Force Distributed Common Ground Station specializing in ISR operations. None were to the Air Force Targeting Center or other bonafide targeting organization. Statistically speaking, it is likely there were at least two officers in this graduating class with prior targeting experience.

The Air Force Career Path Tool may improve the Intelligence Assignments Team's ability to account for targeting expertise over current methodologies. For now, the team canvasses performance reports, "SURFs" or duty history, and obtains references from senior officers (Gersten 2011). These are tedious and lengthy means to find resident targeting expertise. However, by linking the Air Force Career Path Tool with a professional career development plan, the assignments team could theoretically look up a targeting job and quickly retrieve eligible candidates.

With the focus on building officer capacity in non-targeting professional competencies, it is likely the Air Force will significantly leverage the enlisted targeteer and the Air Force Targeting Center in fulfilling its targeting requirements.

Theme 2: Education and Training

This subchapter describes and analyzes education and training data from written sources and interviews. The secondary research question, "How is the career field educating and training its officers to perform within the targeting process?" guided data collection.

While gathering data, the author organized research into three broad categories. The categories were an officer career education and training plan (CFETP), initial skills training, and advanced education and training.

Officer Career Education and Training Plan

Major General Casciano's "Sentinel Force 2000+" outlined a "cradle to grave" education and training plan. In his words, the plan is "identifiable, measurable, and budget defensible" (Casciano 1997). The general envisioned a force development plan

linking education and training with assignments. After ten years, General Casciano's thoughts are mainly conceptual despite many senior officer and civilian commentaries.

Air Force Instruction 36-2201, "Air Force Training," provides guidance on developing, managing, and conducting a CFETP (U.S. Air Force 2011, 1). The primary purpose of a CFETP is to define a path for progression with specific education and training requirements at appropriate points along a career (U.S. Air Force 2011, 36). Officers are not required to have a CFETP unless the career field manager determines it is necessary (U.S. Air Force 2011, 36). Despite multiple RAND studies and articles recommending one, intelligence officers have not had a CFETP since at least 1998 (Wilson 2006, 26).

The author asked several senior intelligence officers and civilians to provide their perspective on the benefit of implementing a CFETP for officers. The purpose of the CFETP would be to integrate education and training within a comprehensive professional officer career development plan. 80 percent of the respondents believed a CFETP was beneficial if linked to an overarching career strategy because it allow for focused education and training that would be tailored for specific jobs (Cacy 2011). The respondents believed it was a vital piece in executing a career development plan. Moreover, a CFETP focuses education and training requirements to specific jobs.

The IPRO and Headquarters Air Force Staff force management proposals both describe a conceptual career education and training plan. The plan breaks education and training into four levels that resemble a university curriculum. For example, initial skills training at Goodfellow Air Force Base is considered 100-level; field grade officers preparing for jobs in strategy, policy, and doctrine complete 400-level education. As the

officer progresses in rank and receives education and training, the officer is upgraded from the basic level intelligence badge to the master level intelligence badge (see figure 5).

Both plans defined an officer by breadth of professional competencies, such as targeting, and depth of core expertise, such as wing level mission support for precision guided munitions. Articulating an officer's breadth of professional competencies and depth of core expertise more effectively describes an Air Force intelligence officer over the esoteric system currently in place (Freel 2011).

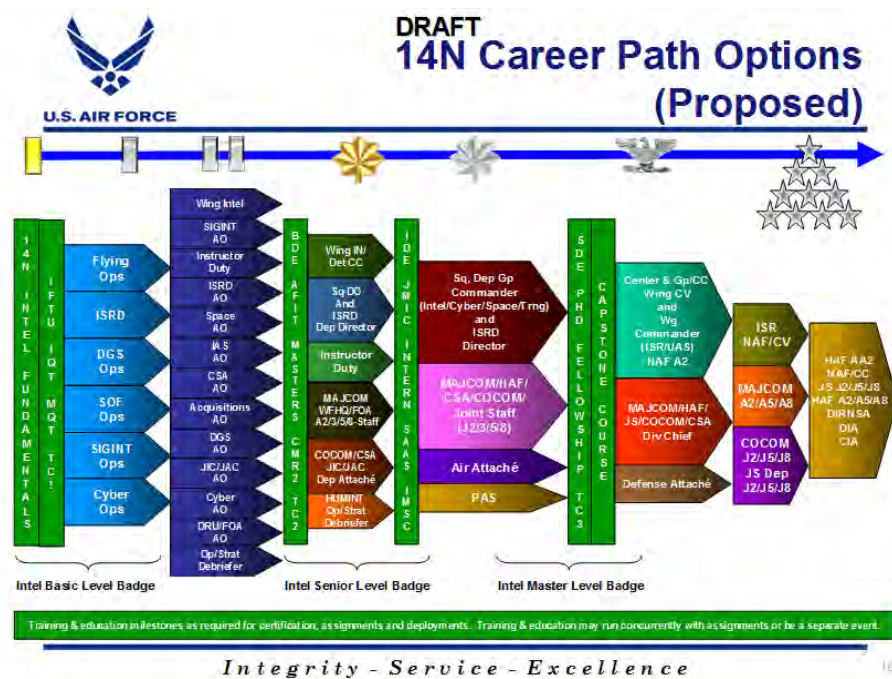


Figure 5. 14N Career Path Options

Source: Theresa Sanchez, "Air Force Intelligence, Surveillance, and Reconnaissance Officer and Civilian Career Force Management for the 21st Century" (Air War College Research Paper, Air University), 8

The author asked several enlisted targeteers how effective CFETPs were in building breadth and depth. Virtually all respondents believed the enlisted CFETP for their career field, or former career field, provided the necessary backbone to build career education and training. The respondents perceived the CFETP helped describe that skills are mastered as an enlisted intelligence professional before progressing in rank (Lyons 2011). As one training manager at Goodfellow Air Force Base stated, “It is easy to say I need a 7-level ‘Craftsman’ to attend the Advanced Targeting Course because everyone knows what a 7-level means. How do I say what kind of intelligence officer needs to attend the course when I do not know how to describe an officer’s experience?” (Davis 2011).

Company grade officers are generally supportive of a CFETP, but expressed concerns about how to manage education and training requirements in a compressed 10 year period. These officers were keen to point out there is already a major education and training event about every two to three years. The first four years of service are the hardest, since officers must complete first-tier professional military education, initial skills training, complete follow-on training, deploy, enroll in a graduate degree program, and finally take squadron officer’s school in correspondence. During this time, officers pointed out supervisors encouraged officers to seek multiple new jobs and pursue a foreign language.

Initial Skills Training

All of the senior officers and civilians interviewed preferred initial skills training that provided a comprehensive overview of the intelligence professional competencies. With respect to the perceived quality of officer initial skills training, Air Education and

Training Command staff stated the Air Force routinely receives a 95 percent satisfaction rate on graduate assessment surveys for intelligence officers (Stafford 2011). Thus, it appears the sentiments of providing an overview of the intelligence professional competencies match the rest of the Air Force's expectations.

The same senior officers and civilians indicated later in their conversations with the author that initial skills training should naturally flow into the advanced courses taught at Goodfellow Air Force Base. For example, initial skills training for targeting should provide an overview of the joint targeting cycle. The Targeting Intelligence Fundamentals Training Unit (Targeting IFTU) must take training to more depth. This is accomplished by spending multiple days on the joint targeting cycle and requiring students to demonstrate skills associated with using the cycle. To build breadth in targeting, senior officers advocated for officers pursuing intelligence-related graduate degrees.

The most significant trend highlighted during interviews was the need for initial training to build critical thinking and analysis skills. This came as a surprise to the author. Prior to the research, the author had assumed from experience working with training planning teams, the respondents would provide a wide range of opinion on particular skills or professional competencies students should learn. The author also believed at least one of the former targeteers interviewed would strongly advocate for providing depth in the targeting professional competency over other competencies.

Instead, virtually all senior respondents believed critical thinking and analysis should form the common thread of instruction throughout initial skills training. To them, perhaps the greatest net gain for the Air Force is building critical thinkers and analysts

over developing as many targeteers or ISR operators as possible (Lombardo, 2011). The perception among the majority of senior respondents was if an officer becomes astute in critical thinking and analysis, the officer becomes capable of most tasks.

Ultimately, nearly every targeteer interviewed believed the operational environment today is just as complicated, if not more so, than in the Cold War. This drives the need for more skilled analysts. During the Cold War, a targeteer could skillfully measure the effectiveness of destroying a fixed industrial facility or destroying a fielded division of opposition without considerable effort. In contrast, the target sets in Iraq and Afghanistan are less defined and within close proximity of friendly forces and urban areas. Since the target sets are less defined, it is difficult to weaponize and measure the effectiveness of precision guided munitions. Against a conventional military industrial target, databases provide an assessment on the impact to military production by percentage or days until repair after suffering damage. When assessing people, the impact is extremely difficult (Schultz, 2011).

In a well documented example of modern analysis and targeteering, the Air Force Distributed Common Ground System provided hundreds of hours of full motion video to locate and track a high value individual, Abu Musab al-Zarqawi. Using the analysis, targeteers conducted a time-sensitive target operation supporting F-16s. The combat aircraft destroyed al-Zarqawi's safe house in Baqubah, Iraq. The action resulted in the death of the Al-Qaeda leader in Iraq and contributed to the decline in anti-Shia hostility. The decline was seen as the ultimate strategic objective in delegitimizing Al-Qaeda's influence in Iraq. The analytical effort and the decision to use precision guided munitions is an example of analysis driving operations.

Two senior officers illustrated how critical thinking and analysis driving targeting is grounded within military doctrine, such as in *Joint Intelligence Preparation of the Operational Environment* (Pratzner 2011). Colonel Pratzner at the Air Force Targeting Center stressed the important of matching commander's guidance and end state with analysis derived from performing joint intelligence preparation of the battlespace (JIPOE) functions. The Colonel stated targeteers must first understand the critical links and nodes of a target and how the target is interconnected within a larger context, such as the economic or information underpinnings of an adversary. Understanding how the target affects an adversary on a larger scale enables a targeteer to select the best weapon or non-lethal means to influence the enemy's actions. This understanding involves critical thinking and analysis brought about through JIPOE (see figure 6).

The two courses both emphasize critical thinking and analysis, but the instructional approaches are vastly different. The six month enlisted targeting course's goal for students is to learn the six phases of the joint targeting cycle and apply critical thinking and analysis within each step (Shultz 2011). For example, during the weaponeering phase, enlisted targeteers are required to match the appropriate precision guided munitions to a target, such as a building, and describe why the weapon was selected against the target (Shultz 2011). The instructors ask the student to explain the effects of using precision guided munitions with respect to collateral damage and potential civilian casualties, and require a student explanation if more effective munitions are available (Shultz 2011).

Knowing the effectiveness of munitions is critical to an enlisted targeteer and the instructors try to connect effects with how they impact the ability to meet a commander's objective and guidance. Instructors use military doctrine, such as *Joint Targeting*, to measure impact by providing instruction on measures of performance and measures of effectiveness (Joint Chiefs of Staff 2007, IV-19). Measuring performance is quantitatively based, and students discuss the number of targets destroyed or the number of precision guided munitions used during a sortie. Measuring effectiveness is qualitative, and students discuss if the right targets were destroyed and if the right weapons were used against the targets.

The author learned initial skills training for officers takes a more holistic approach to critical thinking and analysis. The seven month officer course emphasis is less on demonstrating proficiency on tasks, such as weaponeering, and more on students demonstrating the ability to understand how a target fits into a larger operational or

strategic-level strategy (Slater 2011). For example, one block of instruction involved an exercise where students tracked high value individuals with full motion video. The students discussed the importance of the individuals to operational objectives and explained why the full motion video asset spent hundreds of hours building a comprehensive database on the individuals' activities (Slater 2011).

The author found two principles, “sensor to shooter” and “hunting and gathering,” discussed in the historical narrative of chapter 2, receive heavy emphasis within the critical thinking and analysis portions of the officer course. These two principles from Operation Allied Force and contained with the 2005 RAND paper, “The Next Steps in Reshaping Intelligence,” require students to not only memorize basic ISR sensor capabilities but to demonstrate how to integrate multiple sensor capabilities in solving target related problems (Treverton 2005, 22).

During one observation in the classroom, the author witnessed a student giving a briefing describing his plan to monitor activities along a border (Quinene 2010). There were several flaws in the plan, and the instructors asked probing questions to force the student to think critically about how to best use his ISR sensors and assess how the enemy might exploit his weaknesses (Quinene 2010). Further, the instructors asked the student how critical data on an enemy's location might be passed to combat aircraft for destroying the target if necessary. The student was not sure how to tie combat aircraft into his ISR sensor plan, but after considering the problem for a few minutes with the help of peers, the student was able to articulate a proper response for the instructors.

This vignette is one of many that describe how critical thinking and analysis are the common thread throughout the course. When appropriate, the students are required to

demonstrate how critical thinking and analysis tie into other professional competencies, such as targeting (Quinene 2010). This philosophy would find support from the authors in the *Joint Forces Quarterly* article, “Change Culture, Reverse Careerism.” Content education and training have historically favored tactics over critical thinking and analysis, and that the trend must be reversed (Bethel et al. 2010, 87).

Advanced Education and Training

Senior respondents contended the purpose of advanced education and training is to provide focused study on one or more professional competencies prior to taking a new job or moving to a new assignment. Since the early 1990s, the Combat Targeting Course has been an advanced course at Goodfellow Air Force Base serving this purpose. Since its inception, the course has graduated hundreds of enlisted and officer students. The respondents maintained the need for the advanced courses to serve as realistic and relevant training opportunities. A contentious balance existed between teaching the latest doctrine with new technology versus relying on time-tested, older doctrine and technology due to fiscal constraints and competition from the rest of the Air Force. As a result of competing resources and shifting priorities toward ISR operations, as determined by doctrine, the Combat Targeting Course failed to adapt and ultimately declined in relevance.

Respondents told the author that over time Combat Targeting Course feedback from the Air Force indicated that the advanced course was teaching at a very fundamental level (Davis 2011). As a result, annual attendance dropped significantly (Davis 2011). The author reviewed the course materials and saw a narrow focus. Of the 280 hours of instruction, there are no blocks of instruction dedicated toward ISR operations or critical

thinking and analysis outside of the joint targeting cycle, and very little material on targeting against a counter-insurgency (Davis 2011).

In response to feedback from the Air Force, the Combat Targeting Course underwent a major revision in 2009. A training planning team convened to outline new requirements. The courseware designers' fundamental goal was to create a course that met the just in time training needs of officers and cross-trainee enlisted personnel about to take a first-time targeting assignment (Cardinale 2011).

Just-in-time training is not a new concept. In 2006, General Poss, then Air Combat Command's senior intelligence officer, championed the notion of linking certifications and special experience identifiers with focused education and training programs (Poss 2006, 1). His article, "Right Training for Right People at Right Time" argued for providing realistic and relevant training at preplanned points within a career.

Subject matter experts with recent deployment experience wrote the courseware for the new Targeting IFTU and perceived the seven-week course as a key first step in building targeting depth over a career. The course complements unit-level training and is designed to provide a standardized foundation for targeting skill sets. The course is built around a "hands-on" approach toward instilling technical expertise. In many cases, the course goes into more depth on hardware and systems than the previous Combat Targeting Course and in as much detail as the enlisted targeteer course.

For example, there is a requirement to perform weaponeering at the 3C level (Davis, 2011). The 3C level is considered "go or no-go" criteria for graduation according to Air Education and Training Command standards. A 3C standard is the first for a formal AETC targeting course in nearly 20 years and demonstrates the targeting

community's desire to ensure deep technical expertise as early as possible in a targeting officer's career (Davis, 2011). Also complimenting weaponeering, is the requirement to teach target products in great detail. Graduates will understand how to build and interpret the details of the various target products, such as collateral damage estimates and combat assessments before approving them for dissemination.

Graduates also learn the responsibilities as a targets representative to the Master Air Attack Planning Cell. The course authors believed understanding this knowledge was critical in knowing how to communicate with authority on target nominations and weaponeering details (Drum, 2011). The instructors the author interviewed are confident these new changes to the Targeting IFTU will allow an officer to perform targeting roles and responsibilities with success at the wing level.

Senior respondents and civilians praised the formation of the new course, stating it is in line with General Deptula's 2009 ISR Vision and changes in ISR doctrine. Further, at least one respondent emphasized the Targeting IFTU is moving in the right direction by applying critical thinking and analysis in a focused manner (Pratzner). The author reviewed the course materials for the new course and noted high graduation standards were attributed to targeting system analysis and development and how to use intelligence databases to research the ideal weapon and combat aircraft against a selected target or problem set (Davis 2011). Targets ranged from buildings to individuals and problem sets ranged from improvised explosive device networks to border security.

The recent changes in ISR doctrine reflected in Air Force Doctrine Document AFDD 2-0, *ISR Operations*, led to the creation of an end of course exercise. Operation Quickdraw is a multi-day exercise that integrates the Targeting IFTU with the existing

ISR Operations and Analysis courses at Goodfellow Air Force Base. The operation was conceived and first implemented in 2008 and has evolved over the years to meet Air Force requirements (Thompson 2011). Targeteers within the exercise are required to explain the ISR collection strategy used to develop and track their target sets and how ISR sensor data allows the targeteer to operate within the joint targeting cycle. The exercise is just another opportunity for targeteers to think in broad critical thinking and analytical terms (Thompson 2011). Ultimately, senior respondents were pleased with the focus of the new course, but adopted a “wait and see” attitude before passing early judgment (Flaherty 2011).

On the horizon is the Advanced Targeting Course. Its function is to serve as the capstone education and training event for targeteers. Both enlisted and officers will attend the first course starting in July of 2011. For now, the course requirements specify a 7-level enlisted targeteer with multiple years of targeting experience. According to the training manager, it is difficult to identify officer prerequisites, since officers do not use skill levels. For now, graduates of the former Combat Targeting Course are ideal first candidates to attend. The course will graduate at least 50 students a year.

Education and Training Findings

This section presents three education and training findings that are grouped by categories. The categories are an officer career education and training plan, initial skills training, and advanced education and training.

Finding #1. Air Force senior intelligence officers and civilians advocate an officer CFETP linked to a comprehensive career development plan.

–Sentinel Force 2000+” is one of many articles published over the last decade arguing for a comprehensive career development plan with education and training milestones. Senior officers and civilians believe a CFETP allows the career field to clearly define an Air Force intelligence officer and articulate skills and experiences at different ranks and assignments.

Analysis indicated a strong likelihood the Headquarters Air Force Staff will produce a career field development plan within a year. The Air Staff plan discussed with the author also included a linkage of education and training with assignments and career progression. However, how the CFETP will be implemented is still under consideration. Some ideas include officers attending a combination of in-residence and correspondence courses to complete CFETP requirements while others adhere to an in-resident only approach to training.

It is likely the existing residence advanced courses, such as the ISR Operations Course and the Targeting IFTU, will account for the bulk of CFETP requirements since they represent two of the intelligence professional competencies. The Intelligence Masters Skills Course (IMSC) will likely serve as a 300 or 400 level qualifying course, but will require a significant refocus to adhere to CFETP requirements. The relocation of the IMSC from Goodfellow Air Force Base to a more intelligence-dense environment is also debatable.

The new Advanced Analysis Course taught at Maxwell Air Force Base is a possible candidate for CFETP requirements and more effective than the current Advanced Correlation and Fusion Course. The latter course has received poor reviews and attendance for the last few years. Lieutenant General Deptula, former Deputy Chief

of Staff for ISR, lauded the Advanced Analysis Course during the first graduation in 2010 by emphasizing knowledge over weapons and information in warfare is critical toward achieving desired effects. (Bergquist 2010, 1). By all accounts, the new course still receives positive reviews and the students represent a cross-section of the Air Force, thus providing a broad focus on critical thinking and analysis.

Finding #2. The majority of respondents believe critical thinking and analysis is the most critical professional competency taught during initial and advanced education and training.

Respondents indicated analysis and critical thinking were the most important skills an intelligence officer should possess in modern warfare. The author received multiple vignettes explaining how officers needed to have the ability to survey the environment, or battlefield, and intuitively know how to break down problems into fundamental parts. For example, when attempting to solve the problem of protecting friendly forces against improvised explosive devices (IEDs), it is not realistic or effective to attempt to locate and target individual IEDs. An officer should consider an IED problem set or network from a systems perspective.

Considering an IED network from a systems perspective requires an analysis of critical links and nodes. The critical links and nodes are identified as financiers, roads, bomb-makers, and types of devices. Once critical links and nodes are identified, an officer can holistically determine the appropriate set of tasks to protect friendly forces. In some circumstances, it is using an ISR sensor to monitor a road, while a combat aircraft strikes a bomb-maker's sanctuary, and other government means attempt to freeze a financier's assets. The ability to think critically and analyze in examples such as the one

illustrated takes years to master, but senior respondents believe it is more beneficial to have an officer thinking multi-dimensionally about problem sets than knowing how to apply a specific targeting solution to a complex problem set.

To enforce critical thinking and analytical thinking, the initial skills training courses use exercises. Classroom visits noted use of sensor to shooter and hunting and gathering methodologies to ensure students went beyond expressing rote facts about ISR sensors and articulated how their collection strategy fit into a broader operational strategy. The author believes the new approaches to exercises are positive developments, but observed the changes are extremely instructor dependent and rely on experienced personnel to maintain continuity.

Finding #3. The Targeting IFTU and Advanced Targeting Course are at risk for losing relevancy based on inexperienced instructors.

The years and variety of experience held by the Targeting IFTU and Advanced Targeting Course instructors is extremely low and limited. The number of years of service for officer instructors range from two to six years of active service. Moreover, most of the officer instructors have only one prior targeting assignment before assignment to Goodfellow Air Force Base. Sparse experience and variety of assignments is a direct result of having no career field development plan to produce a pool of officers with targeting experience. In one instance, an officer with prior enlisted experience graduated from the Intelligence Officer Course and stayed at Goodfellow Air Force Base to teach the former Combat Targeting Course due to lack of qualified instructors. Ideally, advanced courses should be taught at a minimum by senior captains and technical

sergeants, but the historical trend is much different, favoring less experienced instructor cadre.

The Advanced Targeting Course requires expert targeteers to provide the most realistic and relevant training to 7-level enlisted targeteers and officers. As Goodfellow Air Force Base struggles to hire experience, the initial classes are likely to be taught “out of hide” from existing cadre. Significant volumes of course material are written, but without experienced cadre, the material will be taught out of context and to a lower standard than originally intended. This is not an ideal situation during the course validation period. An ideal option is to postpone the Advanced Targeting Course start date until experienced instructors are assigned, or hired, and given ample time to review and learn the course material.

Theme 3: Organizational Structure

This subchapter describes and analyzes data from written sources and interviews pertaining to a portion of the Air Force’s targeting organizational structure. The secondary research question, “What organizational changes, if any, are required for officers?” drove data collection. The data fell within three separate categories. This theme was the most open-ended in terms of finding definitive conclusions since the opinion on the current organizational structure for Air Force targeting varied significantly. Moreover, this section is a sample of the organizations the respondents felt were the most significant to targeting officers.

Goodfellow Air Force Base

The author first discussed with senior respondents the effectiveness of Goodfellow Air Force Base hosting the Targeting IFTU and Advanced Targeting Course. Over the years, many different opinions have surfaced. In ~~Building the Perfect Beast: Proposals to Improve U.S. Air Force Targeting Training,~~ Major Andrew Wilson makes an argument to move Goodfellow Air Force Base's advanced courses to Nellis Air Force Base. During the author's research, less than 20 percent of all respondents believed the two courses would benefit from moving to another location.

Advocates for moving the advanced courses perceive Nellis Air Force Base as an ideal location given its active runway, AOC training facility, the presence of the Air Force Weapons School, and resident combat expertise (Wilson 2006). These officers argue the current Targeting IFTU is mostly taught within a classroom with little interaction with an operational mission or AOC. Further, proponents of moving the courses believed the Targeting IFTU would continue to have junior cadre and limited civilian and contract support given Goodfellow Air Force Base's remote location.

The majority of respondents opposed moving the course. These respondents believed in the synergy achieved in the Targeting IFTU interacting with the ISR Operations Course, and the Analysis, Correlation, and Fusion Course at Goodfellow Air Force Base. Further, the senior respondents cited cost as a major reason why moving the courses to Nellis Air Force Base or another location was prohibitive. Last, senior respondents felt the concept of one location providing the majority of targeting education and training ensures synergy between the courses and ensures adequate resourcing and continuity of academics.

ISR Advanced Courses Squadron

While moving the targeting courses to another location seems prohibitive, some respondents entertained the notion of creating an ISR advanced courses squadron at Goodfellow Air Force Base (Willis 2011). An ISR advanced course squadron would allow a true focus on ISR advanced academics, and tailored facilities and instructors. However, senior officers at Goodfellow Air Force Base also mentioned that creating an ISR advanced courses squadron during the current fiscal shortfall and manpower constrained environment would be difficult to implement, but worth doing.

The notion of creating an ISR advanced courses squadron is in keeping with the spirit of General Deptula's ISR Flight Plan. The Flight Plan called for a realignment of disparate intelligence organizations to focus resources to accomplish the ISR mission. It seems a natural extension to consider realigning training organizations. As one former ISR instructor pointed out, teaching ISR advanced courses within an initial skills focused training squadron tends to water down the advanced courses (Thompson 2011). This is because initial skills training focuses on demonstrating skills and tasks, such as operating targeting software. Advanced courses are more conceptual, considering problems with open-ended solutions (Thompson 2011).

Wing Level Intelligence and Targeting

Respondents also spoke at length concerning the effectiveness of wing level officers leading and managing enlisted targeteers and the targeting mission. More than one officer discussed the findings from the 15th Intelligence Squadron study conducted in early 2011. Of particular note was the lack of experience within Air Combat Command intelligence organizations.

According to the study, 76 percent of Airman are on their first wing intelligence assignment (15th Intelligence Squadron 2011, 8). That translates to the bulk of personnel in training status and deploying for the first time in a targeting capacity. At the mid-grade enlisted level, the situation is not much better (Lyons 2011). Units are manned at the 56 percent level and of those personnel at the mid grade enlisted level, nearly 20 percent of all personnel cross train from another career field (15th Intelligence Squadron 2011, 8). Thus, the notion that there is a deep bench of enlisted targeteers within the wings is mistaken.

Officers leading the targeting mission are in a similar position. Many targeting chiefs at the wing level are on their first assignment and are recent graduates of the former Combat Targeting Course (Drum 2011). These officers deploy to Air and Space Operations Centers and lead the targeting mission while on their first deployment. Low manning levels and inexperience was a leading contributing factor in the creation of the Air Force Targeting Center (Pratzner 2011). Despite the low experience at the wing level, most senior respondents argue that officers require breadth over multiple assignments in non-targeting jobs (Freel 2011).

Wing level personnel struggle to obtain specific targeting certifications. Most of the experienced trainers are deployed or no longer on active duty. Further, to achieve essential targeting certifications, such as point mensuration, units send their personnel to external organizations, such as the National Geospatial Intelligence Agency (NGA) or the 20th Intelligence Squadron at Offutt Air Force Base (Oneal 2011). While the certification training is highly lauded, finding the funds and time to send personnel is difficult. Thus, only a small fraction of targeteers received specialized certification training. Some

respondents advocated for the Targeting IFTU and Advanced Training courses to also provide the ability to provide point mensuration certification.

Air Force Targeting Center

The last topic discussed was the creation of the Air Force Targeting Center. All respondents praised the creation of the Center since it will encapsulate most of the Air Force's residence targeting expertise for deliberate or preplanned targeting support for COCOMs and Air Force units (Flaherty 2011). A few respondents commented on the Targeting Center's success in supporting Operation Odyssey Dawn operations in Libya, but noted the Air Force must rely heavily on contractors and civilians to form the core of the Center's expertise until the active duty force is given time to develop expertise (Pratzner 2011).

Organizational Structure Findings

This section presents two organizational structure findings for consideration.

Finding #1. Many respondents believe an ISR advanced courses squadron is a viable alternative to moving courses from Goodfellow Air Force Base

The 315th Training Squadron provides initial skills training and advanced course training. Despite the two missions, it is largely an initial skills focused squadron. Respondents perceive creating an ISR advanced courses squadron fits within professional career development plan proposals, where ISR advanced courses would represent 300 and 400 level education. Further, a separate squadron ensures advanced education would not directly compete with initial skills training for personnel and other resources.

There is difficulty in creating an ISR advanced courses squadron given fiscal constraints and manpower shortfall, but the concept is believed to be valid and fits within the overarching ISR Flight Plan. The 315th Training Squadron is building two additional training facilities scheduled for completion within three years. Advocates argue those facilities represent an opportunity to create a new squadron.

Finding #2. The Air Force should consider the Targeting IFTU and Advanced Targeting courses providing certification in point mensuration and collateral damage estimates.

The Air Force Targeting Center and its subordinate units form the basis for the bulk of specialized targeting certification. Point mensuration and collateral estimates are critical wartime functions that enlisted targeteers must demonstrate at the wing level. Since the targeting center is producing a vast amount of target products for the COCOMs and AOCs, there is a tendency to deemphasize the need for wing level targeteers to maintain targeting certifications. However, some respondents believe wing level targeteers need the ability to perform point mensuration and collateral damage estimates in a dynamic wartime situation and feel pulling targeting data in a high operations tempo environment is not efficient. However, the author believes as more enlisted targeteers become certified, it is likely the sharing of target product production will become more balanced. A balance is necessary for wing level targeteers to maintain proficiency in critical targeting skills.

Additionally, as recent studies indicate, wing level targeteers find it difficult to obtain certification training. This is based on operations tempo, fiscal constraints, and manning shortfalls. That is why some respondents believe it is more efficient to examine

the possibility of students graduating from the Targeting IFTU and Advanced Targeting Course with the point mensuration and collateral damage estimate certification.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This paper's primary research question was answered by several findings.

Evidence indicates there is no benefit to the Air Force in creating specialist targeting officers during the company grade officer years. The consensus of the majority of senior leaders is for critical thinking and analytical thinking to serve as the foundation of officer professional development. To instill critical thinking and analysis, the Air Force needs a career development plan for intelligence officers. Such a plan, once implemented, will influence education and training, and, to a small degree, organizational structure.

Senior leaders desire an intelligence officer capable of receiving objectives and guidance and translating them into a series of executable tasks that allow for the analysis of clear and measureable effects. Such an officer is a holistic thinker and a person that can intuitively assess risk and determine multiple courses of action. To become a holistic thinker an officer must first gain experience in multiple professional competencies with tailored education and training to hone expertise.

Gaining experience in multiple professional competencies is about finding a balance between individual and organizational requirements within the assignment and education and training process. The Air Force is slowly regaining mastery of its targeting professional competency. Enlisted targeteers and the Air Force Targeting Center are investments in a multi-year strategy. However, the author is concerned about the Air Force's ability to lead and manage enlisted targeteers and targeting organizations over the long-term. This is because very few company grade officers have experience conducting targeting support for a major combat operation. The current generation of company grade

officers derives its experience from low-intensity targeting support in Operations Iraqi and Enduring Freedom. With declining budgets and manpower shortages, it makes sense to recapitalize human resource beyond hiring contractors and civilians to ensure the Air Force maintains a resident core of leaders for supporting major combat operations.

The Air Force would benefit by using new officers with enlisted targeting experience to fill critical shortfalls in targeting expertise for at least ten years. This decision would provide leadership and expertise where it is needed most and allow the Air Force time to broadly develop other officers. Moreover, it would also provide the Air Force with much needed expertise for educating and training new targeteers at Goodfellow Air Force Base. Fundamentally, the author recommends more action in determining the most critical assignments requiring targeting expertise and then matching those assignments with new prior enlisted graduates from Goodfellow Air Force Base.

Senior leaders and the courseware authors of the Targeting Intelligence Formal Training Unit (IFTU) and the Advanced Targeting Course (ATC) both acknowledge the need for the two courses to provide intense and focused education and training. However, the author believes there is a mismatch in philosophy between senior leaders and the courseware authors. Again, senior leaders desire holistic thinkers, but the courses are designed to teach officers how to expertly create targeting products and use targeting hardware and software. These are skills best learned on the job and do not reflect holistic thinking.

To achieve the intent of many senior leaders, the author believes educating and training targeteers is best accomplished by striking a balance between theory, history, and experience. Graduates of targeting courses need to know how airpower theory influenced

the creation of doctrine and the pursuit of technology. Graduates should also know what theories were applied in history to understand lessons learned. Discussing experience allows for self-reflection and the opportunity to evaluate the Air Force's application of doctrine and theory. Theory and history should comprise two-thirds of the course. The last third can delve into the creation of targeting products. That portion of the instruction will become more effective since a theoretical and historical contextual framework would be established early in the courses. The suggestions the author provides are already implemented within the popular Intelligence, Surveillance, and Reconnaissance Operations Course at Goodfellow Air Force Base.

To find a balance between theory, history, and experience the author recommends moving the Targeting IFTU and ATC out of the 315th Training Squadron and into a separate ISR advanced courses squadron aligned under the 17th Training Group at Goodfellow Air Force Base. This action is necessary because the 315th Training Squadron is fundamentally an initial skills training squadron. With the focus on initial skills training, there is a conflict of interest in managing the existing ISR advanced courses within the squadron. There are at least five advanced courses, including the Air Force Distributed Common Ground System Formal Training Unit, to create the core of a new squadron.

The author gained several perspectives on implementing a distance learning or correspondence program for intelligence officers. The intentions are sound in providing a professional body of literature for every officer to read and demonstrate mastery on the subject matter by reading and testing. While the author agrees that a professional body of literature is required for every officer to read, the author believes a distance learning

reading and testing program, similar to existing professional military education programs, is not effective in developing critical thinking and analysis.

Respondents participating in this paper's research stated students learn and retain subject matter best by participating within residence programs. The interaction between students and instructors places subject matter within the proper context for discussion and learning. Reading and test taking outside of the residence environment encourages rote memorization, not critical thinking and analysis. The author recommends revamping the Intelligence Masters Skills Course and changing the target audience from field grade to company grade officers.

The Intelligence Masters Skills Course (IMSC) should emphasize themes. The themes are the Air Force intelligence professional competencies. To understand the themes, the curriculum should be reading and writing intensive. The common threads to build the course are also theory, doctrine, and experience. Today, the course lacks cohesion. The entire class writes a one paper writing assignment as a group. IMSC must focus on the professional competencies and encourage graduates to read and write upon graduation and contribute to the body of knowledge that defines the intelligence career field.

To conclude, as the evidence emerged, this paper became less about targeting officers and more about developing critical thinkers and analysts. The author was surprised by the findings, as he believed the majority of senior officers and instructors would desire highly trained targeting officers given recent studies, debate, and action.

Still, the evidence is clear that the Air Force needs a professional development career plan for officers. A career plan will ensure officers are developed to effectively

lead and manage professional competencies and provide an acceptable standard of capability for the Air Force. Moreover, a development plan will define an Air Force intelligence officer for the joint community and provide a pool of highly capable officers for promotion to senior ranks through a deliberate assignment, education, and training process.

APPENDIX A

SUMMARY OF FINDINGS

The following appendix is a summary of findings pertaining to force management, education and training, and organizational structure themes.

Force Management

Finding #1. Air Force senior intelligence officers and civilians advocate for generalization over creating a specialized targeting officer.

Finding #2. The Air Force does not have a professional officer career development plan to groom company grade officers for senior leadership.

Finding #3. The Air Force is not leveraging deployments for building either depth or breadth for company grade intelligence officers.

Finding #4. The Air Force is not effectively using prior enlisted service targeting expertise to lead and manage enlisted targeters and organizations at the company grade officer level.

Education and Training

Finding #1. Air Force senior intelligence officers and civilians advocate an officer CFETP linked to a comprehensive career development plan.

Finding #2. The majority of respondents believe critical thinking and analysis is the most critical professional competency taught during initial and advanced education and training.

Finding #3. The Targeting IFTU and Advanced Targeting Course are at risk for losing relevancy based on inexperienced instructors.

Organizational Structure

Finding #1. Many respondents believe an ISR advanced courses squadron is a viable alternative to moving courses from Goodfellow Air Force Base

Finding #2. The Air Force should consider the Targeting IFTU and Advanced Targeting courses providing certification in point mensuration and collateral damage estimates.

REFERENCE LIST

- 15th Intelligence Squadron. 2011. *The state of wing intelligence*. Langley Air Force Base, VA.
- 17th Training Wing. 1992. *17th training wing history*. Goodfellow Air Force Base, TX: 17th Training Wing Printing.
- Air Force ISR Agency. 2011. History of the Air Force ISR agency. <http://www.afisr.af.mil/shared/media/document/AFD-061130-022.pdf> (accessed 15 April 2011).
- Bennet, John. 2009. Lt Gen. David Deptula. *DefenseNews*, 12 January 2009. <http://www.defensenews.com/story.php?i=3896251> (accessed 3 May 2011).
- Bergquist, Carl. 2010. ECPD graduates inaugural Advanced Analysis Course class. Maxwell Air Force Base website. <http://www.maxwell.af.mil/news/story.asp?id=123204103> (accessed 14 April 2011).
- Bethel, Prupas, Ruby, and Michael Smith. 2010. Change culture, reverse careerism. *Joint Forces Quarterly*, 58 (3rd Quarter): 83-88.
- Brauner, Marygail K., Hugh G. Massey, S. Craig Moore, and Darren Medlin. 2009. *Improving development and utilization of U.S. Air Force intelligence officers*. Santa Monica, CA: RAND Corporation.
- Buller, Andrew. 2011. Interview by author. Goodfellow Air Force Base, TX. 23 March.
- Cacy, Tom. 2011. Interview by author. Randolph Air Force Base, TX. 3 March.
- Cardinale, Christopher. 2011. Electronic correspondence with the author. 5 May.
- Casciano, John. 1997. Sentinel force 2000+. <http://www.fas.org/irp/doddir/usaf/sentinel/cvrltr~1.htm> (accessed 27 January 2011).
- Christian and James Dillard. 2000. Why we need a national joint targeting center. *Air and Space Power Journal*. 6 January. <http://www.airpower.au.af.mil/airchronicles/cc/Dillard.html> (accessed 14 April 2011).
- Clark, Lynn. 2011. Constructivist methods. University of Colorado. <http://www.colorado.edu/journalism/mcm/qmr-const-theory.htm> (accessed 12 April 2011).
- Davis, Jim. 2011. Interview by author. Goodfellow Air Force Base, TX. 24 March.
- Davitt, John. 2011. Electronic correspondence with the author. 2 May.

- Deptula, David. 2008. Lead turning the future. <http://www.af.mil/shared/media/document/AFD-081201-007.pdf> (accessed 14 April 2011).
- . 2009. AF ISR flight plan. *Air Force Magazine*, 6 July. http://www.airforce-magazine.com/SiteCollectionDocuments/Reports/2009/July%202009/Day08/AFISR_flightplanbrief070609.pdf (accessed 20 January 2011).
- Deptula, David, and Greg Brown. 2008. A house divided: The indivisibility of intelligence, surveillance, and reconnaissance. *Air and Space Power Journal*, 1 June. <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj08/sum08/deptula.html> (accessed 14 April 2011).
- Dsouza, Larkins. 2007. How was the F-117 shot down? *Defence Aviation*, 8 February. <http://www.defenceaviation.com/2007/02/how-was-f-117-shot-down-part-1.html> (accessed 15 April 2011).
- Drum, Phillip. 2011. Interview by author. Goodfellow Air Force Base, TX. 23 March.
- Flaherty, Michael. 2011. Interview by author. Washington, DC 8 March.
- Freel, Charles. 2011. Interview by author. Washington, DC. 7 March.
- Galway, Lionel A., Richard Buddin, Michael R. Thirtle, Peter Ellis, and Judith Mele. 2005. *Understrength U.S. Air Force career fields*. Santa Monica, CA: RAND Corporation.
- Gersten, Trevor. 2011. Interview by author. Randolph Air Force Base, TX. 3 March.
- GlobalSecurity.org. 2005. Operation deliberate force. 27 April. http://www.globalsecurity.org/military/ops/deliberate_force.htm (accessed 4 March 2011).
- Hanson, Phyllis. 2010. Online development plan improving total force career roadmaps. Air Force Website, 28 September. http://www.af.mil/news/story_print.asp?id=123223980 (accessed 10 January 2011).
- Hernandez, Sherry. 2011. Interview by author. Randolph Air Force Base, TX. 3 March.
- Joint Chiefs of Staff. 2000. Joint Publication 2-01.3, *Joint intelligence preparation of the environment*. Washington, DC: Government Printing Office. http://www.dtic.mil/doctrine/new_pubs/jointpub_intelligence.htm (accessed 11 December 2010).
- . 2007. Joint Publication 3-60, *Joint targeting*. Washington, DC: Government Printing Office. http://www.dtic.mil/doctrine/new_pubs/jointpub_operations.htm (accessed 11 December 2010).
- Kafer, Becky. 2011. Interview by author. Goodfellow Air Force Base, TX. 22 March.

- Lombardo, Anthony. 2011. Interview by author. Washington, DC. 9 March.
- Lyons, Christopher. 2011. Interview by author. Goodfellow Air Force Base, TX. 24 March.
- Mason, Erwin. 2011. Interview by author. Randolph Air Force Base, TX. 2 March.
- Merriam, Sharon. 2005. *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Oneal, Ryan. 2011. Electronic correspondence with the author. 2 April.
- Perry, James. 2000. Operation allied force: The view from Beijing. *Air and Space Power Journal*, 22 October. <http://www.airpower.maxwell.af.mil/airchronicles/cc/Perry.html> (accessed 4 April 2011).
- Poss, James. 2006. Right training for right people at right time. *Spokesman*, July. <http://www.afisr.af.mil/shared/media/document/AFD-060927-042.pdf> (accessed 10 December 2010).
- Pratzner, Phillip. 2011. Interview by author. Langley Air Force Base, VA. 9 March.
- Quinene, David. 2011. Interview by author. Goodfellow Air Force Base, TX. 21 March.
- Roche, William. 2011. Interview by author. Washington, DC. 9 March.
- Rolirad, Karen L. 2011. Interview by author. Goodfellow Air Force Base, TX. 21 March.
- Sanchez, Theresa. 2009. Air Force intelligence surveillance and reconnaissance officer and civilian career force management for the 21st century. Graduation Research Paper, Air War College, Maxwell Air Force Base, AL.
- Science Applications International Corporation. 2008. *Greybeard targeting study*. Hampton, VA: Patchplus Consulting, Incorporated.
- Schultz, Blaine. 2011. Interview by author. Goodfellow Air Force Base, TX. 24 March.
- Slater, Richard. 2011. Interview by author. Goodfellow Air Force Base, TX. 22 March.
- Sopko, Mark. 1999. Combat assessment: Analyzing the results of an air campaign. *Air and Space Power Journal*, 15 November. <http://www.airpower.maxwell.af.mil/airchronicles/cc/sopko.html> (accessed 5 April 2011).
- Stafford, Christopher. 2011. Interview by author. Randolph Air Force Base, TX. 3 March.
- Thompson, Jason. 2011. Electronic correspondence with the author. 8 May.

- Treverton, Gregory. 2005. *The next steps in reshaping intelligence*. Santa Monica, CA: RAND Corporation.
- Troyer, Doug. 2007. Program budget decision 720, force shaping: Why now? Vance Air Force Base Website, 28 August. <http://www.vance.af.mil/news/story.asp?id=123066206> (accessed 14 April 2011).
- Thei, Harry. 2004. *Developing and using General and Flag officers*. Santa Monica, CA: RAND Corporation.
- U.S. Air Force. 1991. *Air Force performance in Desert Storm*. U.S. Air Force White Paper. Washington, DC: Government Printing Office. http://www.airforce-magazine.com/SiteCollectionDocuments/TheDocumentFile/Historical%20Studies/WhitePaper_AFinDS_0491.pdf (accessed 11 December 2010).
- . 1993a. Air Force Instruction 14-207, *Air Force targeting*. Washington, DC: Washington DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 3 January 2011).
- . 1993b. Air Force Policy Directive 14-2, *Intelligence, collection, production, and application*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 3 January 2011).
- . 1998. Air Force Instruction 14-210, *U.S. Air Force intelligence targeting guide*. Washington DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 7 March 2011).
- . 2002. Operation Deliberate Force. Regional Headquarters Allied Forces Southern Europe, 16 December. <http://www.afsouth.nato.int/factsheets/DeliberateForceFactSheet.htm> (accessed 25 April 2011).
- . 2003. *Air Force transformational flight plan*. Washington, DC: Future Concepts and Transformation Division. http://www.au.af.mil/au/awc/awcgate/af/af_trans_flightplan_nov03.pdf (accessed 20 January 2011).
- . 2005. Air Force Instruction 13-1AOCV3, *Operational procedures, air and space operations center*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 12 March 2011).
- . 2006. Air Force Doctrine Document AFDD 1-2, *Air Force glossary*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 10 March 2011).
- . 2008. AF A2 targeting tiger team recommendations. Powerpoint presentation, 6 March 2008. Created by Headquarters Air Force Deputy Chief of ISR Staff.

- . 2009a. Air Force Instruction 14-117, *Air Force targeting*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 16 March 2011).
- . 2009b. Air Force Doctrine Document 3-60, *Air Force targeting doctrine*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 14 March 2011).
- . 2010. Air Force Doctrine Document 2-0, *ISR operations*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 2 April 2011). <http://www.e-publishing.af.mil/>
- . 2011. Air Force Instruction 36-2201, *Air Force training*. Washington, DC: Government Printing Office. <http://www.e-publishing.af.mil/> (accessed 2 April 2011). <http://www.e-publishing.af.mil/>
- U.S. Congress. Senate. Armed Services Committee. 2004. *Testimony on Air Force fiscal year 2005 ISR programs*. http://www.fas.org/irp/congress/2004_hr/040704sams.pdf (accessed 3 December 2010).
- Washington Post. 1998. Fog of war: The battle for the hearts and minds. <http://www.washingtonpost.com/wp-srv/inatl/longterm/fogofwar/vignettes/v8.htm> (accessed 5 January 2011).
- Wilcox, Lucius, 2011. Interview by author. Goodfellow Air Force Base, TX: 22 March.
- Willis, J. D. 2011. Interview by author. Goodfellow Air Force Base. 22 March.
- Wilson, Aaron, 2006. Building the perfect beast: Proposals to improve United States Air Force targeting training. Graduation Research Paper, Air Command and Staff College, Maxwell Air Force Base, AL.
- Valparaiso University. 2011. Intelligence officer training pyramid. Air Force ROTC Detachment 225, 3 April 2011. www.valpo.edu/afrotc/Career%20Path%20Guide.doc (accessed 1 May 2011).

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