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Evaluating the Efficacy: How Should the Air Force Contracting Career Field Assess its Training Methods

December 2024

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Prepared for the Naval Postgraduate School, Monterey, CA 93943

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ABSTRACT

This study aims to address the critical gap in evaluating the effectiveness of Air Force Contracting's initial skills training program by identifying best practices from other Department of Defense (DoD) agencies and industry that could be adopted to improve training outcomes. To achieve this, we first established a baseline understanding of the current measures used to assess the efficacy of Air Force Contracting's training. We then applied a case study methodology to examine best practices within other DoD organizations and conducted an analysis of industry approaches to gain a holistic perspective on effective training evaluation. Our findings indicate that other government agencies employ diverse and systematic techniques—such as competency mapping and outcome-based assessments—to evaluate the effectiveness of their initial skills training programs. These practices provide actionable insights that Air Force Contracting could leverage to create standardized and comparable metrics for training evaluation. By adopting these evidence-based practices, Air Force Contracting can generate meaningful data to refine its training programs, enhance workforce development, and ensure personnel are well-prepared to meet mission-critical objectives. This research lays the foundation for long-term improvements in training efficacy, contributing to a more prepared contracting workforce.



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LIST OF ACRONYMS AND ABBREVIATIONS

AETC	Air Education and Training
AFIT	Air Force Institute of Technology
BoD	Board of Directors
CFETP	Career Field and Technical Education Plans
CFP	Contracting Flight Plan
CIPP	Context Input Process Product
CO	Contracting Officer
DAU	Defense Acquisition University
DAWIA	Defense Acquisition Workforce Improvement Act
DoD	Department of Defense
DDM	Department of Defense Management
DAF	Department of the Air Force
IDP	Individual Development Plan
IPOO	Input Process Output Outcomes
JBSA	Joint Base San Antonio-Lackland
KPI	Key Performance Indicators
LOE	Line(s) of Effort
MRCO / MRC-103	Mission Ready Contracting Course
NCMA	National Contract Management Association
NPS	Naval Postgraduate School
OJT	On-the-job training
RPA	Remotely Pilot Aircraft
ROI	Return on Investment
TVS	Training Validation System
UPT	Undergraduate Pilot Training
URT	Undergraduate RPA Training



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I. INTRODUCTION

In the era of great power competition, it is crucial for leadership within Air Force Contracting to ensure its personnel possess the necessary knowledge and skills to effectively execute the complex procurements demanded by the warfighters of today. The ability to secure high-quality goods and services requires a workforce that possesses the competence to do this. Air Force Contracting has made a significant investment in not only developing the specific workforce competencies themselves but the comprehensive, high-quality initial skills training programs to equip its professionals with them. Every future Contracting Officer attends a specialized training course and participates in rigorous on-the-job training when they first onboard, all of which is aimed at developing those competencies. However, there is limited evidence that Air Force Contracting has the ability to measure the efficacy of these initial skills training programs against the competencies deemed necessary.

Air Force Contracting currently lacks a standardized, comparable metric for capturing and analyzing this data, which is a gap that hinders the ability to assess the true effectiveness of its initial skills training programs. Air Force Contracting currently uses surveys to gather data on these trainings which provide limited insights into the true effectiveness of its initial skills training programs. This limits opportunities for process improvement and optimization, directly affecting the ability to fully develop the necessary knowledge of theories, principles, and practices contracting personnel need. The lack of connection between initial skills training metrics and defined competencies also restricts leadership's ability to make data-driven decisions that could impact how this training is accomplished.

Having identified this gap, the goal of this study is to understand how four institutions within the United States Federal Government measure the effectiveness of their initial skills training programs, and to better understand what industry best practices are in this domain. Then after analyzing this data, and synthesizing the needs of Air Force Contracting, we make a best-fit recommendation for implementing this capability to the community. To accumulate this data, a case study approach was conducted to analyze



multiple perspectives of initial skills training. Multiples case studies provide different approaches of exploring current practices utilizing multiple avenues of research and how those practices in turn might mitigate a defined conundrum (Crowe et al., 2011). In addition, an interpretative framework approach was applied in tandem with the multiple studies in which multiple perspectives were analyzed (Crowe et al., 2011) and recommendations were developed to answer how the evaluation of AF Contracting initial skills training can leverage approaches from other organizations.

Representatives from the Defense Acquisition University (DAU) and Naval Postgraduate School (NPS) were interviewed to provide an institutional perspective on evaluating program efficacy. The same was done with representatives from the Air Force Undergraduate Pilot Training (UPT) who provided a look at how other career-specific initial training programs are assessed for their ability to develop essential competencies. Kirkpatrick's Four Levels of Evaluation and Competency Assessment (1959) methods were also studied, to compare and incorporate applicable insights from tried industry practices.

The absence of standardized metrics leaves the Air Force Contracting Force operating under the assumption that its members have all the necessary initial skills training they need to effectively provide mission support, with little to no concrete data to support these assumptions. This study intends to enhance how the evaluation of initial skills training is done to ensure the investments made by the Air force on its contracting workforce are successful at capturing the skills necessary to support mission-critical operations in a rapidly evolving global landscape.

A. PROBLEM IDENTIFICATION

The initial intent of this research was to explore how Air Force Contracting measures the effectiveness of its initial skills training programs. The current initial skills training program for Officers and Civilians is the Air Force Institute of Technology (AFIT) Mission Ready Contracting (MRC-103) course which enrolls and graduates around 330 contracting personnel per year into the program, who learn the fundamental contracting proficiencies (Air Force Institute of Technology, 2024). Enlisted personnel attend the Contracting Apprentice Course at Joint Base San Antonio-Lackland (JBSA),



which is their initial skills training technical school that enrolls and graduates a rough estimate of around 250 personnel per year (37th Training Wing, 2024).

During our preliminary investigation of these training avenues, we uncovered a significant gap: Air Force Contracting currently does not have any standardized process for collecting efficacy data or assessing initial skills training outcomes. A way to ensure that these objectives are met effectively is by having a standardized way to measure the learning outcomes from each training. Without a clear metric, we cannot accurately assess whether individuals are gaining the necessary knowledge and skills to meet the desired training outcomes. This can impact the ~8,000 total Air Force Contracting Force that go through this training every year and our ability to ensure their training is relevant and effective (Department of the Air Force (DAF) Contracting Board of Directors (BoD), 2024). As a result, our research now centers on identifying the most effective methodologies that Air Force Contracting can adopt to rigorously measure and enhance the efficacy of its initial skills training programs.

B. RESEARCH QUESTIONS AND OBJECTIVE

This research aims to address the following questions, which are critical to understanding and improving the effectiveness of initial skills training within the Air Force Contracting career field:

1. How can the Air Force contracting career field measure the effectiveness of its initial skills training programs?
2. How are other organizations measuring the effectiveness of their initial skills training programs?

We seek to identify practical and reliable metrics or methodologies that Air Force Contracting can implement to evaluate the success of its initial skills training programs. By developing a standardized approach to measuring initial skills training outcomes, Air Force Contracting leadership can ensure that personnel are acquiring the necessary foundational competencies, while simultaneously being provided valuable data to make informed decisions about program and resource improvements. This study will also examine how other federal agencies, particularly those with similar missions or organizational structures, and industry evaluate their initial skills training programs. The evaluation of other federal agencies aims to uncover innovative or proven approaches that



could be adapted to meet the specific needs of Air Force Contracting. Understanding these external practices will also help benchmark the Air Force Contracting's initial skills training effectiveness against broader industry standards, ensuring that its programs are competitive and aligned with best practices.

Ultimately, the answers to these questions will provide a foundation for making informed recommendations on how Air Force Contracting can enhance its initial skills training evaluation processes. These enhancements and recommendations will also provide Contracting personnel the ability to develop, practice and understand training competencies that directly align with leaderships needs and goals for enhancing the contracting force. Findings in measuring training effectiveness impart useful data that can be utilized to not only enhance training capabilities but also expand competencies. These collective observations and findings will thereby strengthen the Air Force Contracting workforce in supporting its mission objectives within an increasingly complex environment.

C. SCOPE

The scope of this research does not extend to enlisted training programs within the broader Air Force contracting career field. The reason for this is that career training is significantly different for enlisted personnel than it is for Officers and Civilians, who both complete a four-week Mission Ready Contracting Officer (MRC-103) course for their initial skills training while enlisted personnel conduct a six-week training within the JBSA contracting technical school. Both training avenues contain their own curriculum to accomplish initial proficiency criteria. But since these are two unique programs, conducting case studies and recommending generalized solutions to both would not enhance their individual program needs. By concentrating on one specific area, the research intends to offer precise and actionable insights that can directly contribute to the development of a more capable and mission-ready contracting personnel.

D. BACKGROUND

The Department of the Air Force (DAF) established a strategic initiative aimed at modernizing its contracting workforce to ensure its effectiveness in an increasingly



dynamic operational environment (Department of the Air Force, 2023). Central to this initiative is the emphasis on equipping personnel with the essential skills and knowledge required to adapt and thrive amidst rapid change. The DAF's Contracting Flight Plan (CFP) outlines the overarching goals and priorities for Air Force Contracting, providing a broad vision of what needs to be achieved (Department of the Air Force, 2023). Complementing this, the Career and Technical Education Plans (CFETP) offer detailed, tactical approaches that explain how 64P Officers, 6C Enlisted members and 1102 Civilians are to meet these objectives. These plans define the competencies that the contracting workforce is expected to possess upon the completion of their initial skills training and gain over time throughout their careers (Department of the Air Force, 2023). Moreover, they address the current needs of the force by considering contemporary threats, existing gaps in capabilities, and directives from senior leadership. The initial skills training programs Air Force Contracting professionals get sent to satisfy proficiencies covered by the CFETP.

1. Department of the Air Force Contracting Flight Plan

The expectation of top-level leadership is that the contracting workforce is not only technically skilled but also strategically aligned with the broader goals of the Air Force and the Department of Defense. The Department of the Air Force's Contracting Flight Plan outlines four strategic lines of effort (LOE) to do this, each designed to drive the modernization and effectiveness of the contracting workforce (Department of the Air Force, 2023).

The first line of effort is "Building Mission Focused Business Leaders" (Department of the Air Force, 2023). This LOE centers on developing mission-focused business leaders by enhancing training programs and talent management practices. In addition, it aims to cultivate a workforce that is not only skilled in contracting but also aligned with the broader mission objectives of the Air Force. This LOE defines three key objectives in defining how to develop mission focused business leaders. These are "1.) Attract, access & Evaluate Key Talent," "2.) Retention Tools," and "3.) Reimagine Training & Culture for Today & Tomorrow" (Department of the Air Force, 2023). These



objectives define key metrics used to achieve this objective through manpower, collecting data for retention, and creating a more robust training platform.

The second line of effort is “Tools Not Rules” (Department of the Air Force, 2023). This LOE emphasizes the importance of providing contracting professionals with the right tools and resources to accomplish their tasks efficiently, rather than being hindered by overly complex rules and bureaucratic processes. In addition, this approach seeks to streamline operations and enable faster, more effective decision-making. This LOE defines two key objectives that DAF contracting will utilize to enhance performance using streamlined contracting tools. These are “1.) Excel at E-business Modernization & Expand CON-IT Across Enterprise” and “2.) Affordable Execution to Support DAF Acquisition Sustainment” (Department of the Air Force, 2023). With these objectives a key metric is defined and used to standardize contracting tools, while simultaneously reducing cost across the DAF portfolio.

The third line of effort is “Contracting Process Innovation” (Department of the Air Force, 2023). This LOE focuses on fostering a culture of innovation by incorporating agile contracting methods and encouraging personnel to take calculated risks and explore new approaches. In addition, effort is crucial for maintaining a competitive edge and adapting to the rapidly changing defense landscape. This LOE defines three key objectives that DAF Contracting will incorporate into their daily processes to aid in internal development. These objectives are “1.) Efficiency, Effectiveness & Alignment,” “2.) Empower Innovators & Operation Imperatives for the DAF Mission,” and “3.) Intellectual Property” (Department of the Air Force, 2023). The key metrics here are used to establish a more robust DAF Contracting strategy by observing and evolving current practices to meet the expanding contracting domain.

Finally, the fourth line of effort is “Expeditionary Contracting as a Joint Force Capability” (Department of the Air Force, 2023). This LOE highlights the significance of “expeditionary contracting as a joint force capability” (Department of the Air Force, 2023), ensuring that contracting operations can support and enhance the Air Force’s readiness and effectiveness in deployed environments. It also defines two key objectives that provide guidance for improving expeditionary contracting. These objectives are “1.)



Force Readiness –Sharpen Expeditionary Capabilities for Wartime Posture” and “2.) Integrate OCS Into Resilient Basing” (Department of the Air Force, 2023). The goal here is to collect data that support how we should strengthen our expeditionary contracting posture. Together, these strategic lines of effort provide a comprehensive framework for transforming the contracting function into a more agile, innovative, and mission-aligned force while also serving as a foundation from which specific workforce competencies are derived.

2. 64P, 6C, 1102 Career Field Education and Training Plan

The CFETP serves as the tactical implementation of Air Force Contracting’s broad strategic objectives, translating the Flight Plan’s overarching goals into specific, measurable competencies for 64P Officers, 6C Enlisted members, and 1102 Civilians (Department of the Air Force, 2023). The CFETP itself is a comprehensive guide that explains the education and training requirements demanded for each Air Force Contracting personnel type. They all have similar but distinct career development pathways that align with the DAF Contracting Flight Plan. While all three personnel types are trained in contracting fundamentals, the emphasis of their training differs in accordance with the specific operational role they fill. 64P Officers are trained to balance contracting expertise with leadership responsibilities, while 6C Enlisted members focus more on technical mastery. Like 64P officers, 1102 civilians are trained in contracting expertise, but with greater flexibility. The CFETP provides a customizable plan for civilians to meet the specific needs of their office, whether in leadership, continuity, or specialized experience. At their core, each CFETP is designed to build the requisite expertise for their respective roles:

64P Officers: Initial skills training begins with the Mission Ready Contracting Officer (MRC-103) course. This initial skills training is then followed by a 12-month period of on-the-job training (OJT) focused on showing proficiency over a list of identified core tasks that focus on developing contracting expertise and leadership:



Table 1. AFSC Designators. Source: Department of the Air force, (2023, Table 5, p. 48).

5. AFSC Designator Table.			
Proficiency Designator	Title	Course Requirements	Experience Requirements
64P1	Entry Level	Mission Ready Contracting Officer (MRC-103) Course Completed	None
64P3	Qualified	Mission Ready Contracting Officer (MRC-103) Course Completed	12 months of contracting and demonstration of proficiency on all core tasks identified in Attachment 1
64P4	Staff Officer	See Note	See Note

Note: Designation of staff level relates only to the level of functional responsibility and is restricted to positions above wing level. It does not denote additional specialty qualifications.

After completing their initial skills training, 64Ps then develop an Individual Development Plan (IDP) with their supervisor for professional development. For our evaluation, we define the process of completing the MRC-103 course, which covers all the core tasks identified in Attachment 1 of the CFETP, as their complete initial skills training requirements within the Air Force Contracting career field officers.

1102 Civilians: Like 64P Officers, civilians also attend the Mission Ready Contracting Officer (MRC-103) course when they first start their careers and have a list of core tasks to complete. While they do not have specific codes to indicate their proficiency, as part of their IDPs they are required to document their fulfillment of these requirements. For our evaluation, we define the process of completing MRC-103 (which includes their version of the core task list) as the complete initial skills training requirements within the Air Force Contracting career field civilians.

By clearly defining the expected competencies for each role, the CFETP not only guides the development of the contracting workforce but also provides a concrete basis for evaluating the effectiveness of training programs. LOE 1 in the Air Force Contracting Flight Plan, “Build Mission-Focused Business Leaders,” seeks to align with these competencies by utilizing test results to understand the success of its initial skills training programs. Even with these metrics, LOE 1 does not directly state how it aligns with CFETP core tasks. These core tasks are crucial in forming the foundation for measuring



training efficacy, making the CFETP a vital tool in the overall training assessment framework.

An additional note on “Back to Basics”—This DAU program serves as an additional training pathway, but it is not explicitly required by the CFETP. While units have the flexibility to incorporate it into their specific training requirements, it is not considered a base requirement for all personnel. Instead, its inclusion depends on the unique needs and priorities of each unit.



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II. LITERATURE REVIEW

Existing literature on the efficacy of training programs primarily focuses on analyzing the metrics used to evaluate outcomes, the methodologies employed to gather this data, and how these findings influence mission success. However, the conclusions drawn from these studies are highly tailored to individual organizations, making it difficult to establish universally applicable best practices for evaluating training effectiveness (Rand Corporation, 2023). Therefore, this review will explore three generally recurring themes in the literature: the importance of training evaluation, existing evaluation methods, and current practices within the Department of Defense and the Air Force.

A. THE IMPORTANCE OF TRAINING EVALUATION

The evaluation of training has long been recognized as essential for both short- and long-term organizational development, particularly in fields where skill competency directly impacts performance outcomes, such as those in the military (Yonekura et al., 2023). Evaluations provide critical insights into how well training programs prepare personnel to meet specific job demands, identifying both the strengths of a training regimen and areas where gaps in knowledge or proficiency may exist. Without comprehensive evaluations, gaps in competency may go unnoticed, potentially impacting mission performance. By focusing on training outcomes, organizations can emphasize the application of erudition for effective performance in roles.

Training evaluation in the Department of Defense (DoD) plays an especially critical role in sustaining mission success, as it not only impacts individual performance but also the collective readiness of units (Toukan & Schulker, 2022). Inadequate training can have profound effects on mission capabilities, which is why determining the effectiveness of training programs is a priority for leadership. Proper evaluations provide data that can be used to adjust training curricula, enhance learning methodologies, and ensure continuous alignment with evolving mission requirements (Bahl et al., 2024). In practice, the need for consistent and reliable evaluation methodologies is a recurring challenge in both military and civilian sectors (Eseryel, 2002, p. 93). While short-term



feedback is important for initial adjustments, an overemphasis on immediate results risks neglecting the broader impact of training on operational readiness. This gap in evaluation practices prevents organizations from fully understanding the lasting effectiveness of their training programs. Research indicates that many DoD training evaluations focus too narrowly on immediate feedback, such as trainee satisfaction or short-term learning outcomes, often neglecting to assess long-term job performance or the real-world application of learned skills. This short-term focus limits the ability of organizations to identify whether the training leads to sustained, impactful improvements in operational success (RAND Corporation et al., 2022). Moreover, trainers and managers are responsible for determining clear learning objectives, specifying the necessary training needs, and planning for measurable outcomes from the training. To achieve this, complex systems for assessing the connection between training and job performance are required, as training success should not only be evaluated on what was learned but on how effectively that learning translates into practical, sustained performance improvements over time (Mitchell, 1994).

B. EVALUATION METHODS FOR TRAINING PROGRAMS

Evaluation methods for training programs have evolved significantly over the decades, driven by the need to quantify and assess how training impacts individual and organizational success. Within industry, particularly in the manufacturing, healthcare, and education sectors, performance in initial skills training is closely tied to productivity and overall operational efficiency. This need has led to the development of tiered systems that assess the effectiveness of training at multiple levels, ensuring that the evaluation process captures both immediate learning outcomes and long-term proficiency (Bahl et al., 2024).

A foundational approach to training evaluation is Donald Kirkpatrick's (1959) four-level model, which assesses training effectiveness through four progressive stages: reaction, learning, behavior, and results:



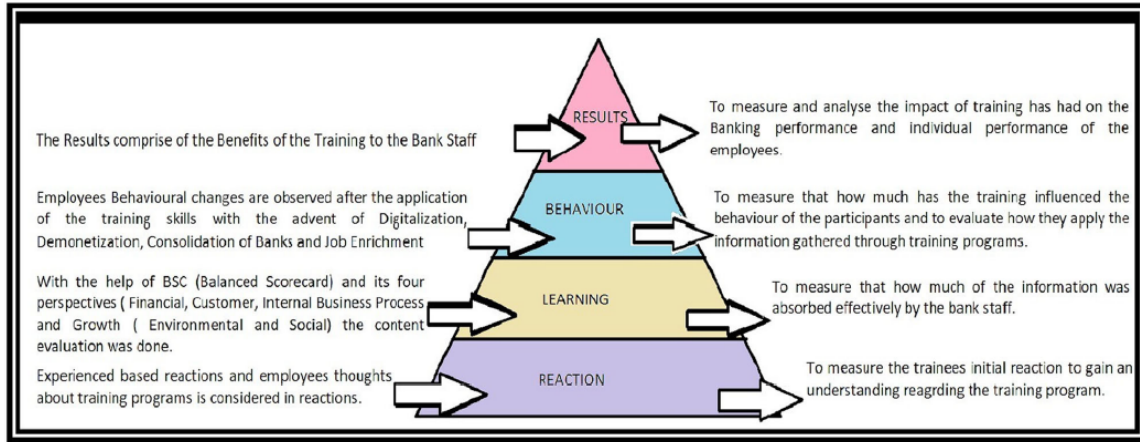


Figure 1. Kirkpatrick Model. Source: Bahl et al. (2024, p. 3).

This model remains widely applicable in its ability to link training outcomes to broader organizational objectives. Each stage of the model evaluates a specific aspect of the training process, starting with immediate participant reactions and concluding with long-term results in terms of improved performance and productivity (Bahl et al., 2024). Jack Phillips expanded on this model in the 1970s by introducing Return on Investment (ROI) as a fifth level, adding a financial perspective to training evaluation and highlighting the cost-effectiveness of training initiatives.

Level of Evaluation	Measurement Focus
I. Reaction & Planned Action	Measures employee satisfaction with the program and captures planned action.
II. Learning	Measures changes in employee knowledge, skills, and attitudes related to the program.
III. Job Applications	Measures changes in on-the-job behavior/job processes.
IV. Business Results	Measures changes in business-impact variables.
V. Return on Investment (ROI)	Compares program benefits to the costs.

Figure 2. Five Levels of ROI Evaluation. Source: Chmielewski & Phillips (2002, p. 227).

While Kirkpatrick's and Phillips' models are widely used, modern approaches to training evaluation have become more refined and adaptable to different organizational needs. Models such as the Context, Input, Process, Product (CIPP) Model, Training Validation System (TVS) Approach are typically used in framework evaluation while the Input, Process, Output, Outcome (IPOO) Model is more focused on outcomes. These have all have gained traction across various industries though, each providing a

structured framework for assessing the effectiveness of training programs (Eseryel, 2002):

The CIPP Model (Worthen & Sanders, 1987) emphasizes evaluating the context and inputs (resources and strategies) that shape a training program, as well as the processes and products (outcomes) it generates. This holistic approach enables organizations to enhance training effectiveness and optimize future performance.

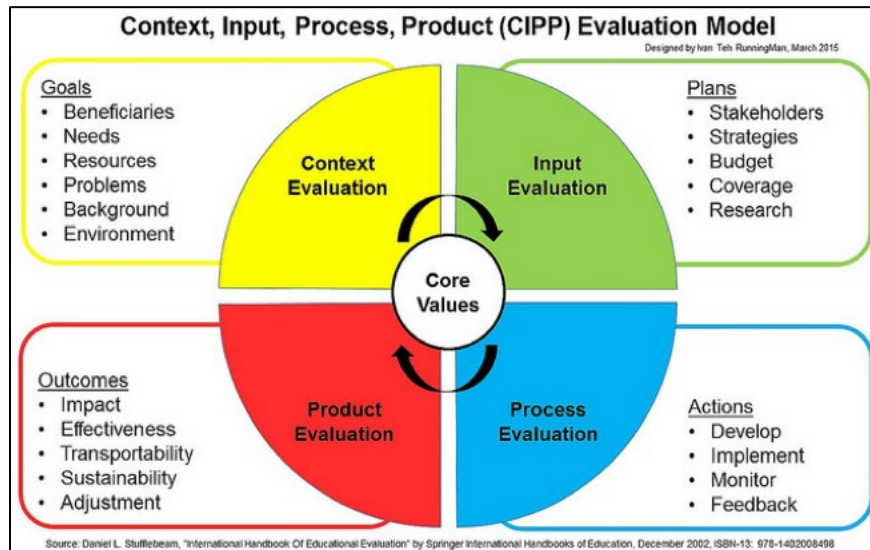


Figure 3. CIPP Model. Source: Yale Poorvu Center for Teaching and Learning (2019).

The TVS Approach (Fitz-Enz, 1994) focuses on validating training by aligning it with performance metrics, ensuring that the training provided leads to measurable gains in productivity and operational effectiveness:

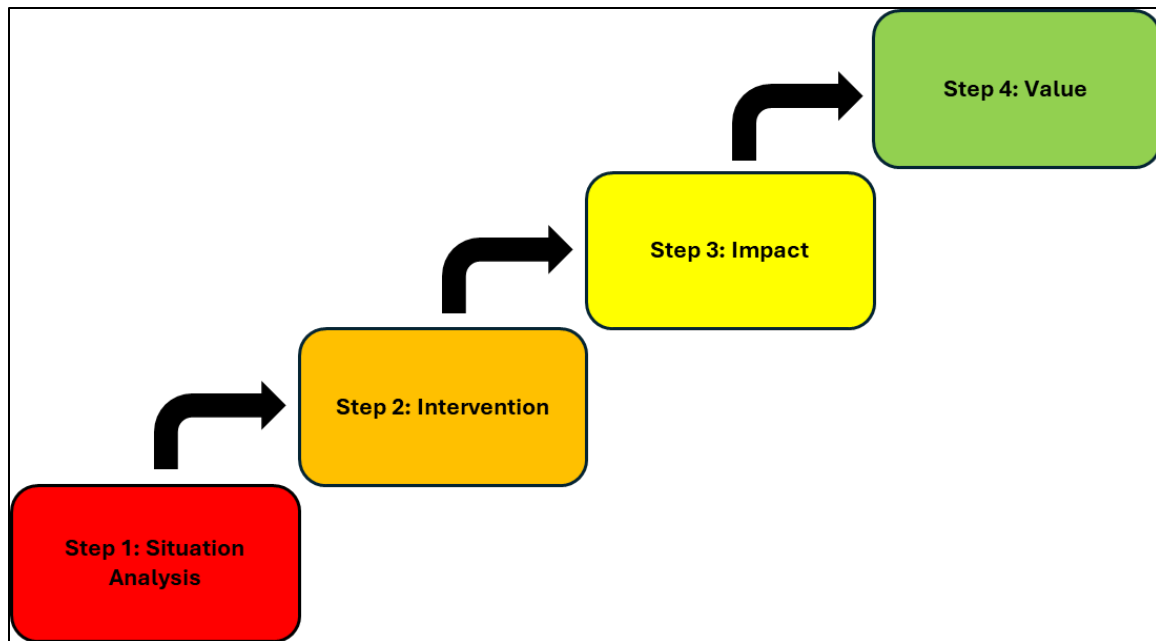


Figure 4. TVS Model. Source: Tamkin et al. (2002) and Fitz-Etz (1994).

The IPO(O) Model (Bushnell, 1990) emphasizes a continuous feedback loop, assessing inputs (resources), processes (training methods), outputs (skills and knowledge gained), and outcomes (long-term effects on job performance).

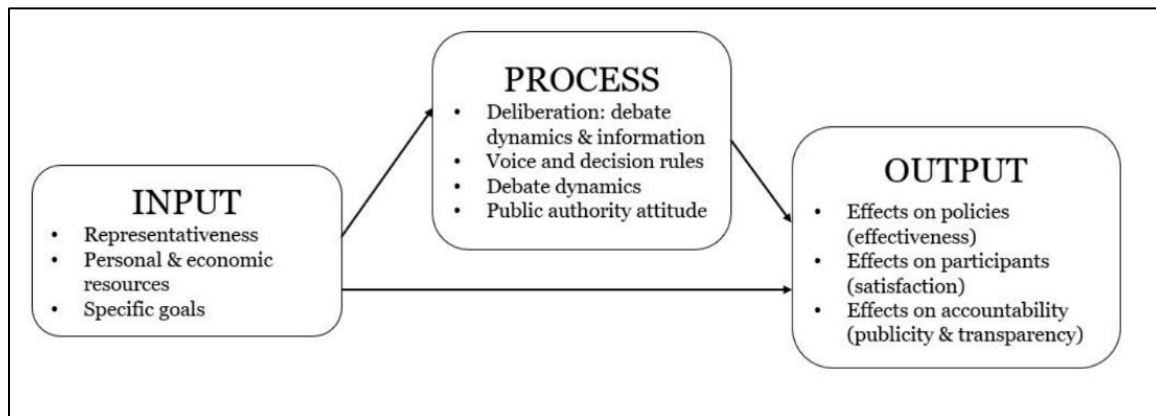


Figure 5. IPO(O) Model. Source: Galais et al. (2020, p. 813).

These models have been adopted across various segments of the private sector, like banking, education, engineering, and human resources, where organizations seek to define and measure the effectiveness of their training programs with the goal of improving overall performance (Azmy & Setiarini, 2023). They are also increasingly being applied within the DoD, where the ability to refine training methods in line with

industry best practices is critical to sustaining mission readiness and success (Tamkin, Yarnall, Kerrin, & Institute for Employment Studies, 2002).

C. DEPARTMENT OF DEFENSE AND DEPARTMENT OF AIR FORCE TRAINING EVALUATION

The DAF, like other branches of the military, employs a few training evaluation methods to assess personnel readiness and proficiency. However, the approach to measuring training effectiveness does not appear to be standardized and varies heavily depending on the specific command or mission area. This variance can create inconsistencies in how training programs are evaluated, making it difficult to obtain a clear picture of overall mission readiness across the force.

Training evaluation within the Air Force typically combines some competency-based and some outcome-based approaches. Competency-based methods focus on assessing the knowledge, skills, abilities, and behaviors that personnel gain through training, while outcome-based methods evaluate whether personnel achieve specific, tangible results after completing their training (RAND Corporation, Toukan et al., 2022). Additionally, the Air Force uses both objective and subjective measures, where objective approaches capture quantifiable metrics such as test scores, while subjective approaches rely on expert judgment to assess trainee performance in real-world scenarios. A recent RAND study found that Air Force leadership is concerned about the limited scope of current readiness assessments, particularly in measuring the long-term effectiveness of initial skills training for contracting personnel (RAND Corporation, Yonekura et al., 2023 pg.v). That is mainly because most of the evaluation methods being used prioritize immediate feedback, such as trainee satisfaction or short-term test scores, over more meaningful metrics that assess how well training translates into real-world performance and contributes to mission success. The absence of comprehensive, long-term evaluation frameworks hinders the ability to make data-driven adjustments to the curriculum and optimize training for better operational outcomes. To address this, there is a need for more robust evaluation tools that not only measure immediate satisfaction but also track the retention and application of skills over time.



By focusing on long-term job performance and how well training prepares personnel to meet mission requirements, the Air Force can better assess the efficacy of its training programs and make necessary adjustments to ensure personnel are fully prepared for their roles. While the Air Force has established a range of training evaluation methods, there is significant room for improvement. The adoption of more comprehensive and consistent evaluation frameworks will allow the Air Force to better align its training programs with operational needs, ultimately improving mission readiness and success.



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III. METHODOLOGY

A multiple case study approach allows the researcher to examine differences both within and between cases, with the goal of replicating findings across them. To enable meaningful comparisons, it is essential to select cases thoughtfully, allowing the researcher to anticipate either similar outcomes across cases or contrasting results grounded in a theoretical framework (Yin, 2003). This is the most appropriate methodology because we aim to gain a comprehensive understanding of how initial skills training is done in different contexts within the government, while also wanting to observe patterns and variances that challenge existing theories. Semi-structured interviews provide a flexible yet guided approach to data collection in case study methodology, allowing us to explore specific themes while adapting questions to uncover deeper insights and nuances from participants' responses (Baxter & Jack, 2015). Thus, we moved forward with semi-structured interviews of training managers and senior leadership from one internal Air Force training source and two external DoD and federal government agencies, totaling three U.S. government entities. These semi-structured interviews aided in gathering comprehensive feedback on how each agency conducted its initial skills training and differentiating how each agency's training framework measures training effectiveness. This feedback was then compared to insights from a representative of the AFIT Mission Ready Contracting Officer (MRC-103) course, which we used as a baseline for comparison.

The agencies selected for the study all conduct initial and introductory-level skills training that are crucial to their personnel's success in the workplace, much like Air Force Contracting. They define initial skills training like Air Force Contracting does: through the completion of an official training course. We chose these three agencies because they were high-performing organizations requiring their members to develop in-depth knowledge, training, and mastery, similar to the technical proficiency demanded by Air Force Contracting. The internal Air Force training source was the UPT program for Remotely Piloted Aircraft (RPA) Pilots, otherwise known as Undergraduate RPA Training (URT). The two external agencies included the DAU and NPS. These institutions were selected due to their reputation for rigorous training programs that



focused on both technical expertise and leadership development, aligning with the Air Force Contracting career field's needs.

The interviews explored nine key topics—Training Program Objectives, Measurement Criteria, Data Collection Methods, Impact Assessment, Feedback Mechanisms, Continuous Improvement, Challenges and Solutions, Technology and Tools, and Customization and Personalization (see Appendix 1 for the full list). These structured questions were designed to provide in-depth insights into how each agency defined, measured, and tracked training performance, and how those metrics correlated with their established core competencies. Each agency's approach underwent detailed analysis to identify how they independently implemented and evaluated their training metrics. By examining their methods, we sought to understand how they ensured that their training programs aligned with their specific mission objectives. Once these findings were gathered, we cross-examined the measurement methods from all four agencies to determine if a cross-functional training measurement framework could benefit the Air Force Contracting career field.

This approach provided a deep understanding of the complexities of government training programs and offered valuable insights for improving Air Force Contracting's initial skills training. By analyzing high-performing agencies, we aimed to uncover new approaches to training measurements that could help define more effective competency-based metrics for Air Force Contracting. Using this case study approach, we developed a comprehensive and practical framework that offers an approach to measuring the effectiveness of Air Force Contracting's initial skills training. The next chapter discusses the current landscape of how training is measured within Air Force Contracting as well as examines the DoD cases previously identified.



IV. DATA ANALYSIS

From August to September 2024, we conducted a series of interviews via Microsoft Teams with representatives from various government agencies known to have strong training evaluation methods. Our goal in doing this was to gather insights from them that could potentially be implemented by Air Force Contracting. We begin our analysis by discussing our base case study: the Mission Ready Contracting Officer Course at AFIT. From the team lead in charge, we got an understanding of how this training is being evaluated currently. We then examine three additional case studies to broaden our perspective on other evaluation practices being used. The first came from the DAU, where a contracting professor shared a variety of evaluation methods tailored to DAU's diverse course offerings. Next, an NPS professor, who also serves as a curriculum evaluator, provided insights on how the contracting program's effectiveness is assessed. Finally, an MQ-9 instructor pilot responsible for evaluating students in an intensive operational training program shared some insights. Together, these case studies offer a comprehensive look at diverse training evaluation approaches across different government institutions. Using the standardized questions attached to the Appendix, we explored relevant key topics.

A. MISSION READY CONTRACTING OFFICERS COURSE

The Mission Ready Contracting Officers course (MRC) 103 is offered at AFIT and is intended to prepare newly ascended contracting officers (CO) to effectively manage government contracts. It focuses on building foundational skills in areas such as acquisition planning, contract execution, and post-award management. The course integrates classroom instruction, practical exercises, and case studies to ensure these COs are equipped to handle real-world contracting challenges (Air Force Institute of Technology, 2024). For this interview, we spoke with the MRC-103 faculty leader, who directs and supervises the team of instructors responsible for delivering the content to students. MRC-103 leverages the student learning platform Canvas as a central tool for delivering course materials, facilitating communication, and offering and recording end of module assessments.



During our interview, the faculty leader stated that the primary goal of the course is to ensure that students build a strong contracting foundation and are prepared to pass the DAU CON 3990 certification exam on their first attempt. The learning objectives of MCR-103 aligned with DAU standards, with AFIT Faculty Development Councils regularly making updates to the curriculum to reflect current Air Force requirements, ensuring students receive relevant education. The program uses a mix of surveys, tests, and qualitative feedback to assess its ability to produce well-prepared, competent contracting officers who not only can pass a certification exam but also demonstrate a comprehensive understanding of essential contracting principles. The faculty leader further explained that the key performance indicator (KPI) for success is the first-time pass rate on the CON 3990 exam, with MRC-103 students achieving a 92% pass rate which is significantly higher than the DoD average of 80%. Our key takeaway is that the MRC-103 course, an important part of initial skills training for Air Force contracting officers, is deemed effective by MRC-103 standards as long as the pass rate of its graduates on the CON 3990 exam is above average. The faculty leader stated, though, that a challenge they face is having limited access to student data from DAU, which restricts their ability to identify and address learning gaps effectively.

B. DEFENSE ACQUISITION UNIVERSITY

The DAU is the premiere DoD training organization for all members within the acquisition workforce. They provide classes ranging from contract training certifications to cost benefit analysis for major defense programs. This robust training agency utilizes collaborative teaching environments to expand hard and soft skills of the students (Defense Acquisition University, 2024). For this case study, we investigated the four initial skills training courses that make up the core of DAU's introductory contracting offering. These courses are CON 1100, 1200, 1300, and 1400, respectively. Each of these courses is formatted to provide the contracting member with the knowledge and capability to pass the CON 3900 contracting certification examination.

For our interview with DAU, we talked with a lead contracting professor from the Western region who represents all satellite campuses in the area. During our discussions, we asked about their programs' objectives and what do they seek to accomplish. They



stated that the primary goal of DAU is to deliver courses that satisfy all statutory and competency requirements for contracting personnel within the DoD. These training courses are set to satisfy the competencies that are used to meet the certification of Defense Acquisition Workforce Improvement Act (DAWIA) standards. In addition, for these objectives for each training, the National Defense Agency Act of 2019 required that all DAWIA training programs also be aligned with commercial standards. The commercial standard they are aligned with is the National Contract Management Association (NCMA), who developed the widely accepted Contract Management Standard (CMS). DAU then adopted these standards into all of its contracting courses. The DoD has also incorporated the CMS standards as their contracting competency guidelines.

With these objectives in mind, we then discovered that DAU uses a quantitative approach in data collecting by utilizing a survey regiment to measure the effectiveness, patterns of concern and challenges of its training courses. A Likert scale survey is taken after the completion of each course and a Likert scale survey is also sent to the members three to four months after the training of each course as well to determine if they retained and applied their contracting training. During the initial course survey, DAU asks about topics such as the members' ability to understand and apply the contracting lessons, and their satisfaction with the course. The follow-up Likert scale surveys ask about topics such as if the lessons provided added to their current contracting knowledge and if the content provided has assisted in enhancing their work within the career field. Both of the surveys question sets are crafted to obtain net promoter scores that aid in measuring a member's total satisfaction with the course content. In addition, these question sets assist in defining Bloom's Level Taxonomy outcomes. Each of these levels' outcomes are measured from the Likert scale survey data which aids in defining course success and meeting core objectives for acquisition members which allows DAU to implement feedback loops on training effectiveness. DAU also uses another quantitative approach in data collecting to measure training efficacy by implementing end of course exams. These exams allow DAU to measure grade scores and how many tries it took to pass. These two methods of tests and surveys allow DAU leadership and its course creators to further evolve these initial contracting training courses into a more collaborative and innovative



environment. DAU headquarters also utilizes this data to update curriculum and create a more collaborative classroom experience. In addition to these forms of continuous improvement, they conduct professionalization training for instructors to aid in teaching students about current contracting standards and changing practices.

Though DAU has a robust training measurement process, they still face challenges across the DoD in meeting all individual contracting organizations' training goals and objectives that may be required for their area of operations. An example is contracting organizations that specialize in major weapon systems where new civilians and military officers are tasked with rapidly advancing their contracting knowledge to be proficient in these weapon systems programs. DAU has tried to mitigate these challenges by providing outreach to all regional branches seeking unbiased feedback and defining an organizational road map on how contracting workforces across the DoD will meet their own defined competencies through their different contracting programs. They also have implemented tailored training and workshops to help limit these challenges across the diverse contracting workforce. Furthermore, they utilize a database system on members progression to aid in strategic decision making for each individual contracting organization. Our key takeaway is that DAU has defined training measurement tools and methodologies that aid in evolving training courses to meet DAWIA certification requirements, DoD competencies, and NCMA standards. Though they face challenges, DAU's methods of measuring training efficacy can be utilized to aid in expanding Air Force contracting initial skills courses.

C. NAVAL POSTGRADUATE SCHOOL

NPS offers a wide array of defense-focused graduate programs, with a particular emphasis on providing advanced education to officers and civilians in the Department of Defense. Department of Defense Management (DDM) Programs within NPS are designed to equip defense professionals with the necessary skills to manage complex contracting, finance, logistics, manpower and program management issues within the DoD. For this case study, we specifically looked at the Master of Science in Defense Contract Management program. The degree combines rigorous academic coursework



with practical applications, ensuring that graduates are ready to handle the multifaceted challenges and meet the established standards of defense contracting.

We spoke with an Associate Professor in DDM at NPS. The Associate Professor has extensive experience in both academia and defense acquisition as it relates to training, which gives them a unique perspective on the intersection of theory and practice in defense contracting. During our interview they highlighted that DDM's comprehensive evaluation system, which is grounded in both academic and practical assessments. The program's objectives are centered around providing defense-focused graduate education with specific criteria such as the satisfactory completion of coursework and assessments. This consist of quantitative measures such as assessment scores and final course grades and qualitative measures that involve post course satisfaction surveys to receive direct feedback on ways to improve the program.

The evaluation system employs a range of tools, such as short-answer assessments and performance-based evaluations, to measure student competencies. Key performance indicators (KPIs) are derived from how well students meet, exceed, or fail to meet the established standards on these assessments. The Associate Professor explained that these standards are set by the program, with each standard containing specific objectives to be met. The class structure and evaluation method—whether it involves two exams for the final grade or three essays and one exam—can be assessed in whatever way the instructor deems appropriate. For instance, tracking student pass/fail rates and grade distribution provides data points to evaluate student performance against the program standards. This data then provides a clearer picture of how effectively the program is achieving its standards.

NPS employs various data collection methods to gauge the program's effectiveness. These include exit surveys that solicit feedback on the value of the courses, discussions with program sponsors (including senior military leaders), and periodic reviews that occur every two years. These reviews not only assess how graduates are performing in their respective roles but also gather input from sponsors about evolving competencies and program improvements. Additionally, curriculum updates from



headquarters and requirements for faculty training aim to ensure that the course remains relevant and effective.

The Associate Professor also stated that the program uses a Contract Management Maturity Model to track long-term success. This model evaluates contracting processes and competencies across different phases of contracting maturity, allowing the program to measure how well it prepares students for real-world challenges. While feedback mechanisms, such as graduation surveys, play a key role in driving continuous improvement, the program faces challenges in measuring the direct impact of training on organizational performance. One specific challenge mentioned was the continuity of faculty training, as faculty aren't required to accumulate two consecutive years of continuous education training. Although data on student success is regularly collected, there are still gaps in directly linking this data to broader organizational performance outcomes. The main challenge lies in bridging the gap between individual student performance and broader organizational impact, a challenge that DDM continues to explore through ongoing program evaluations.

D. AIR FORCE UNDERGRADUATE RPA TRAINING (MQ-9)

Air Force UPT for Remotely Piloted Aircraft (RPA) is a unique training pipeline that involves two avenues of initial skills training that brand new officer candidates need to pass. The first training course is the UPT program, where brand new officers' candidates are trained in flying basics via manned aircraft. Within this training, officer candidates learn how to fly and maintain a T-6 aircraft. They continually conduct check rides to assess their ability to fly proficiently in all environments. After the officer graduates from this course, they transition into undergraduate RPA training (URT) where they learn basics in remotely piloting unmanned assets via aerobatics and flying patterns. This initial skills training is the most robust training that an officer candidate needs to accomplish before they graduate into a fully certified RPA pilot that can execute official missions.

For our interview, we discussed URT with a lead RPA Air Force Officer Instructor. This instructor teaches all undergraduate RPA officer candidates in unmanned aerial training. During our discussion, we asked what training goals and objectives they



seek to accomplish with new candidates. The instructor stated that the URT program's goals are to understand and be competent in conducting the basics of aviation, navigation, instruments and practical applications in handling unmanned aerial assets. The objective of the program is dependent on the needs of the Air Force and operational requirements. To achieve these goals and objectives of training effectiveness, URT utilizes different practices and data collection methods to actively monitor officer candidate performance. URT conducts check rides and end of ride surveys from officer candidates to obtain quantitative data that is utilized to define performance measurements. Check rides test officer candidates' proficiency and competency in their specific areas of unmanned aerial training. During these check rides, the instructors utilize a training management system via iPads as a grading tool to actively monitor rides and overall performance. These check rides are based on set standards that are defined within organized Air Education and Training Command (AETC) and RPA Command syllabi. Within this training management system, there is also an automated data analyzing tool that provides active statistical analysis on grading sheets, check ride performances and areas for improvement. In addition, each officer candidate is also provided an individual profile tailored to these check ride performances. After these check rides, instructors provide feedback and comments on how the officer candidates need to improve or continue their success. URT also utilizes end of check ride surveys as a feedback mechanism where officer candidates can provide honest critiques of the training and how it has either improved or not improved their knowledge base for flying unmanned assets. These surveys provide training metrics on how effective officer candidates can retain critical information on flying unmanned assets and evolve training to meet new demands.

After all the data is collected, including pass rates and graduating class sizes, RPA leadership and its instructors investigate what changes or additions could be incorporated to improve training and course syllabi. In addition to these data collection methods and evolutions of course curriculum, the URT continuously implements simulation upgrades from industry developers and survey requested recommendations to provide officer candidates the state-of-art RPA training. Though these methods provide crucial program advancement, the URT program continuously faces challenges in maintaining a qualified pool of civilian instructors to sustain and provide continuity within the programs. They



currently do not have an immediate solution in combating these challenges, but they are seeking short term solutions such as retaining these current civilians and contractors.

Our key takeaways are that the URT program can actively capitalize on real time data to provide immediate feedback on candidate performance. The URT also utilizes these training metrics to continuously improve the program by requesting curriculum changes to higher command that will aid in future officer candidate training. These methods in measuring and improving training effectiveness are crucial to RPA officer candidates, instructors, and higher command in maintaining the URT program as the premier destination of future RPA pilots.

E. ORGANIZATION COMPARISON TABLE

To clarify our findings and facilitate meaningful comparisons between the representative programs, we developed Table 2 below. This table consolidates insights and summarizes the key takeaways from our interviews, which are further detailed in the narrative sections. The topic categories, highlighted in yellow in the first column, align with the structure of our interview questions outlined in the Appendix: Interview Questions. The base case is shaded in green along the top, while the orange blocks represent the other government agencies we analyzed. This table is designed to provide a concise and organized overview that complements the narratives above, enabling readers to easily identify trends, compare differences, and draw informed conclusions from the data.



Table 2. Organization Comparison Table

	Mission Ready Contracting Officer Course (MRC-103)	Defense Acquisition University (DAU)	Naval Postgraduate School (NPS)	Air Force Undergraduate RPA Training (URT)
Training Program Objectives	Same as DAU	Satisfy DAWIA Certification & NCMA standards	Provide defense-focused graduate education	Achieve basic aviation and RPA skills mandated by operational Air Force mission requirements
Measurement Criteria	First attempt score on CON 3990 certification exam (Test score needs to be $\geq 80\%$)	Course exam pass rates & post course satisfaction surveys	Satisfactory completion of coursework and assessments	Curriculum pass rates, graduating class sizes, and post curriculum satisfaction surveys
Data Collection Methods	Quantitative: Test scores & surveys	Quantitative: Course exam pass rates & Two (2) check-in surveys: at course completion and at 3–4 months post completion	Quantitative: Assessment scores and final course grades & Post course satisfaction survey	Quantitative: Grading tool that obtains and analyzes check ride performance data & Post curriculum surveys
Impact Assessment	Outperform DAU students in CON 3990 exam performance	Members are competent in satisfying DAWIA certification & applying NCMA standards	Track student pass/fail rates and grade distribution	Determine if candidates are competent in conducting all RPA skill sets and address persistent challenges
Feedback Mechanisms	End of module exams	Post Training Surveys using Likert Scale & Bloom Taxonomy Levels	End of course survey	End of Curriculum surveys for each skill set
Continuous Improvement	AFIT Faculty Development Councils stay current with what the field is requiring and bring that to students with curriculum updates	Curriculum updates from Headquarters & professionalization training for instructors	Curriculum updates from headquarters & expected to conduct to refresh course	Simulation upgrades via software from industry and check ride improvements
Challenges and Solutions	Not fully privy to student data from DAU, therefore, unable to understand where gaps in learning exist	Diverse workforce where all training does not meet individual organizational goals and objectives	Faculty aren't required to accumulate 2 consecutive years of continuous education training; continuity	Limited pool of qualified civilian instructors to maintain continuity
Technology and Tools	Canvas	Database system on members progression & net promoter score	PYTHON, SAKAI, Assessment Student Program	iPads and a collaborative tool that allows analytical review of candidate performance
Customization and Personalization	Incorporate Air Force specific requirements and examples in training	Implement more tailored training and workshops to add more robust training for the diverse contracting workforce	Instructors can customize to their desire within the competences set by the department	Each candidate has an individual profile tailored to their performance and areas of improvement

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V. RECOMMENDATIONS AND CONCLUSION

During our research, we examined best practices in training evaluation from institutions like the DAU, NPS, and URT, alongside frameworks such as Kirkpatrick's Four Levels of Evaluation (Bahl et al., 2024) and Phillips Five Levels of ROI (Chmielewski & Phillips, 2002). Insights from these methodologies emphasize the importance of a structured, data-driven approach to assessing training efficacy. With that, we have developed a tailored strategy for Air Force Contracting to implement that would enhance its evaluation methods, aligning them with mission-critical competencies. This involves adopting robust evaluation practices, similar to those used by DAU, to establish a systematic framework that measures outcomes, fosters continuous improvement, and strengthens the alignment between training objectives and operational readiness.

A. RECOMMENDATIONS

Based on our findings, we recommend that MRC-103 adopt four distinct actions to achieve short- and long-term improvements. These actions include linking learning objectives to CFETP competencies, conducting a CFETP pre- and post- assessment test and analyzing the data, administering end-of-module surveys, and developing a learning-objective-to-CFETP-competency matrix. Together, these recommendations offer valuable insights into immediate and future changes needed to align the program with student learning objectives and feedback. Each action should be closely monitored to assess their impact on training effectiveness within MRC-103.

1. Linking Learning Objectives to CFETP Competencies and Proficiency Levels

MRC-103 should align its learning objectives directly with the Career Field Education and Training Plan (CFETP) to ensure the program remains relevant and mission-focused. According to the CFETP, the purpose of MRC-103 is to train newly ascended Contracting Officers. It is supposed to equip them with the foundational objectives it outlines. The CFETP also emphasizes that upon the completion of MRC-103, all contracting professionals are supposed to be proficient at each objective at a



specified proficiency level. By directly linking learning objectives to the CFETP competencies, MRC-103 can help ensure that training aligns with Air Force-wide standards, enhances workforce readiness, and supports career progression. To do this, MRC-103 instructors should adopt the Six Levels of Bloom's taxonomy approach. By applying Bloom's Taxonomy, the training program can be designed to progressively build knowledge and skills, starting with foundational understanding and advancing to higher-order cognitive abilities like analysis, evaluation, and creation. This will ensure students not only acquire basic contracting knowledge but also develop critical thinking and problem-solving skills essential for real-world applications. Documenting these learning outcomes will create a clear roadmap for students' progression and competency development. For example, in a hypothetical scenario, a lesson on "Contract Modifications" might initially teach students basic terminology and processes (Bloom's lower levels) before progressing to more complex tasks, like analyzing the impact of a contract modification on budget or schedule (higher levels). Throughout the lesson, instructors would mark which Bloom's levels are being addressed via exercise and test outcomes and determine whether students demonstrate mastery at each stage. Each level would also be cross referenced to the CFETP core tasks and proficiency levels to ensure mastery of each required objective at the required level.

2. CFETP Pre- and Post-Tests

To effectively assess the efficacy of MRC-103, a comprehensive data collection approach is recommended that relies on quantitative measures like the one used by DAU. To establish a baseline of knowledge and identify major skill gaps, it is recommended that all MRC-103 participants take a pre-course assessment test covering the CFETP Competencies. This test would measure the trainees' current understanding of key contracting concepts and identify areas where they will need the most support. After the completion of the course, MRC-103 participants would take a post course assessment test that covers the same subjects as conducted in the pre-test. This post course assessment would seek to highlight changes in members' learning outcomes from the beginning of the course to its completion. The results of both tests could then be used to tailor the training content and help instructors focus on the specific, identified shortfalls that



graduates experienced during the course. This data could also be used in comparison to measure the growth of contracting knowledge throughout MRC-103, showing the trends in student proficiencies from the beginning to the end of the training.

3. End-of-Module Survey

Through our observations, we noted that the MRC-103 team already conducts some post-training and follow-up surveys. However, incorporating end-of-module surveys would significantly enhance the feedback process by capturing immediate input. These open-ended surveys would include targeted questions on the relevance, clarity, and applicability of the training material. They would provide real-time, actionable insights into what was covered, enabling instructors to promptly address misunderstood content and challenging areas. By facilitating rapid improvements for current students, these surveys would strengthen the overall evaluation process, ensuring that training objectives are achieved, and continuous improvement is prioritized.

4. CFETP to Lesson Objectives Matrix

MRC-103 instructors and course planning teams should document, via a matrix or alignment chart, how the CFETP Core tasks are addressed through the learning objectives for each course. These matrices should be reviewed after each module to provide a visual representation of the correlation between the learning objectives and the CFETP competencies being satisfied. As an example, a chart or matrix would list the specific CFETP Core tasks on one axis and the learning objectives for each lesson on the other. As lessons are taught, the course instructor would mark which tasks are being addressed and how, ensuring that each lesson directly links to the CFETP competencies. This document would be shared with students at the start of the course, allowing them to clearly see how each lesson contributes to their overall training and career development. At the end of each lesson, students would have the opportunity to engage with their instructors on CFETP competencies where they felt they needed additional clarity. This approach mirrors best practices from NPS and URT training models, where core competencies are continuously defined and routinely evaluated. By clearly tracking the fulfillment of training competencies, MRC-103 can ensure that its training meets the



standards for contracting officers as outlined in the CFETP. This structured approach will enhance clarity in the training process and allow members to track their progress within their career fields, ultimately contributing to individual and organizational success.

B. LIMITATIONS OF RESEARCH

A key limitation of this study is the analysis of a limited number of cases, which constrains the breadth of insights that could be derived. Expanding the sample size might reveal additional trends or provide a more nuanced understanding of the issues examined. Furthermore, the case study methodology employed may have excluded alternative approaches from non-DoD or non-governmental agency insights that could offer complementary perspectives. Resource and time constraints also influenced the scope of the study, potentially limiting the depth of analysis in some areas. Despite these limitations, we believe the insights offered to Air Force Contracting are valuable and provide a strong foundation for future research to build upon and refine.

C. AREAS FOR FURTHER RESEARCH

Further research is needed to explore several key areas to enhance the effectiveness of MRC-103 training in Air Force contracting. First, research into the specific challenges faced by contracting professionals' post-training, particularly in relation to how quickly the curriculum can be updated to cover policy changes or technological advancements that happen, would help identify gaps in the content that may not be fully addressed. Another would be research into determining if incorporated hands-on labs would further develop and promote a faster rate of learning than gaining knowledge from on-the-job-training (OJT). There is also an opportunity to examine how different learning modalities (e.g., e-learning, in-person workshops, and mentorship) impact the effectiveness of the MRC-103 program, especially for diverse learning preferences within the contracting workforce. Applying the Kirkpatrick Model to MRC-103 to assess training outcomes at different tiers, and track broader impacts on mission success and efficiency, might provide Air Force Contracting and MRC-103 leadership with the ability to determine if their training program is effective in meeting organizational goals and objectives. Lastly, studying the broader impact of MRC-103



training on organizational outcomes, such as improved MFBL skillset which is aligned with AF Contracting's Flight Plan LOE 1, could provide a more comprehensive understanding of its return on investment and strategic value for the Air Force.

D. CONCLUSION

This research explored the critical need for Air Force Contracting to implement a standardized approach to evaluate the efficacy of its initial skills training programs. It identifies significant gaps in current evaluation methods, including the lack of alignment with defined competencies and the absence of long-term metrics. Through a comparative case study analysis of training methodologies employed by the Defense Acquisition University, the Naval Postgraduate School, and the Air Force Undergraduate RPA Training program, the study highlights best practices that emphasize data-driven feedback mechanisms, competency mapping, and continuous improvement processes. The findings provide actionable recommendations tailored to enhance Air Force Contracting's training programs, ensuring alignment with organizational goals and the evolving demands of the contracting field. By adopting robust evaluation frameworks and leveraging proven methodologies, Air Force Contracting can improve its training efficacy, better prepare its workforce, and strengthen its mission readiness in an increasingly complex operational landscape.



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APPENDIX. INTERVIEWEE QUESTIONS

Potential Questions for Interviewees, dated July 22, 2024

A. TRAINING PROGRAM OBJECTIVES

- (1) What are the primary goals of the training programs?
- (2) How does the organization align its goals with the training objectives?

B. MEASUREMENT CRITERIA

- (1) What key performance indicators (KPIs) or metrics does the organization use to measure your training programs' effectiveness?
- (2) How does the organization define and quantify success for these programs?

C. DATA COLLECTION METHODS

- (1) What methods does the organization use to collect data on training effectiveness (e.g., surveys, assessments, performance reviews)?
- (2) How frequently does the organization collect and analyze this data?

D. IMPACT ASSESSMENT

- (1) How does the organization assess the impact of training on employee performance and productivity?
- (2) Can the organization provide examples of how training has led to measurable improvements in the organization?



E. FEEDBACK MECHANISMS

- (1) How does the organization gather feedback from participants about the training programs?
- (2) How does the organization incorporate this feedback into program improvements?

F. CONTINUOUS IMPROVEMENT

- (1) What processes does the organization have in place to continuously improve the training programs?
- (2) How does the organization stay updated with the latest trends and best practices in training and development?

G. CHALLENGES AND SOLUTIONS

- (1) What has the organization determined to be a challenge in measuring its training programs' effectiveness?
- (2) How has the organization addressed these challenges?

H. TECHNOLOGY AND TOOLS

- (1) What tools or technologies does the organization use to track and measure training effectiveness?
- (2) How have these tools impacted the measurement processes?

I. CUSTOMIZATION AND PERSONALIZATION

- (1) How does the organization tailor its training programs to meet the specific needs of different employees or departments?
- (2) How does the organization measure the effectiveness of these customized training solutions?



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