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A DELPHI EXPERT ASSESSMENT OF PROFESSIONAL  
CERTIFICATION PROGRAMS FOR CONTRACTING PERSONNEL

THESIS

Ronald L. Tougaw, Jr., Captain, USAF

AFIT/GAQ/ENV/01M-15

DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY

**AIR FORCE INSTITUTE OF TECHNOLOGY**

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AFIT/GAQ/ENV/01M-15

A DELPHI EXPERT ASSESSMENT OF PROFESSIONAL CERTIFICATION  
PROGRAMS FOR CONTRACTING PERSONNEL

THESIS

Presented to the Faculty  
Department of Systems and Engineering Management  
Graduate School of Engineering and Management  
Air Force Institute of Technology  
Air University  
Air Education and Training Command  
In Partial fulfillment of the Requirements for the  
Degree of Master of Science of in Acquisition Management

Ronald L. Tougaw Jr., B.A.

Captain, USAF

March 2001


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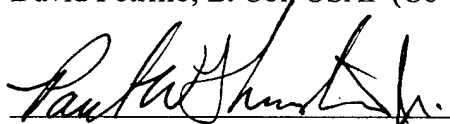
A DELPHI EXPERT ASSESSMENT OF PROFESSIONAL CERTIFICATION  
PROGRAMS FOR CONTRACTING PERSONNEL

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Ronald L. Tougaw, Jr.

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## Abstract

This study examined the strategic goals that were the basis for the DoDs implementation of mandatory certification for individuals serving in the contracting career field of the acquisition workforce. The study then went on to enlist panels of contracting experts to assess the extent to which two of the available certification programs meet, or fail to meet, those goals.

The research method employed to gather input from experts was a Delphi discussion technique. Two separate panels, one consisting of Air Force civilian employees, the other of Air Force active duty officers, participated in eight Delphi iterations facilitated by the researcher. The initial iteration required the experts to answer seven open-ended questions regarding certification requirements. Once the researcher confirmed the experts were focusing on the strategic value of certification, the subsequent iterations were used to identify and allow comment on areas of disagreement both within and between groups.

The primary impact of this study was that it identified many important issues that require attention before the certification programs will be able to fulfill the strategic objectives. Overall, the experts believed the NCMA CPCM to be a truly professional certification, indicative of an individual's professional status and level of development, while the Air Force's APDP certification process was seen as more of a tracking device for training and education rather than a program that enhances professional development.

# A DELPHI EXPERT ASSESSMENT OF PROFESSIONAL CERTIFICATION PROGRAMS FOR CONTRACTING PERSONNEL

## I. Introduction

### *Background*

In 1999, Lorton and Dunn conducted a study to determine potential deficiencies in existing professional certification programs for DoD contracting personnel and develop an “ideal” certification model to overcome those deficiencies (Lorton and Dunn, 1999: 3). This thesis is a continuance and expanse of their research.

The Defense Acquisition Workforce Improvement Act (DAWIA) of 1990 resulted in the establishment of the Defense Acquisition University (DAU) and the prescription of specific training requirements for acquisition personnel (United States Congress, 1990). DAU began certifying DoD acquisition professionals at three different levels based on an individual’s education, experience, and completion of required acquisition courses. The DAWIA education and training requirements are applicable to both civilian and military members of the DoD acquisition workforce; many permanent and deployed positions require the assigned individual to possess a minimum level of certification. This heightened focus on professional development led DoD acquisition leadership to encourage personnel to pursue certifications offered by other organizations as well. The National Institute of Governmental Purchasing (NIGP), National Association of Purchasing Management (NAPM), and National Contract Management Association

(NCMA) all offer various professional certifications for both government and private sector acquisition professionals.

### *Purpose*

Professional certifications serve several purposes for the individuals, organizations, and clientele involved in various vocational fields. Certifications enable organizations to identify current and prospective employees with the highest level of proficiency, incentivize employees to maintain the required level of skills and education, provide a measure of accountability for human resource strategies, and service the public trust by ensuring qualification for practice. This research effort evaluated two of the existing contracting professional certification methods available to DoD personnel in order to determine the extent to which the requirements of those methods are sufficient to meet the strategic initiatives behind the certification process, and assess the reasons attributable to that success or failure.

### *Research Questions*

The previous study focused on five specific elements of the certification process to determine the appropriate structure of an ideal contracting certification program. This study took a strategic standpoint on the subject by attempting to answer two basic questions:

1. What are the strategic goals for certifying acquisition professionals?
2. To what extent do Air Force acquisition experts believe current certification requirements meet or fail to meet those goals?

Although the purpose of this study does not include the design of new certification requirements, recommendations for improvement to the existing certification programs were made, based on the findings in answering the above questions.

### *Scope*

The DoD acquisition workforce consists of eleven distinct career fields each with specific certification requirements (DAU, 1999: 27). Although the results of this study may be of value to professionals in several of the career fields, a review of each separate certification program would require a greater amount of time than is available for this research effort. In order to provide a comprehensive analysis of the research questions, this study is limited to assessing the certification programs for the contracting career field.

As previously discussed, several organizations offer certifications to contracting professionals. The requirements of DAWIA are mandated across the DoD; however, certification from NIGP, NAPM, and NCMA are optional. Of these latter certifications, those offered by NCMA are the mostly widely sought after by DoD contracting personnel. For this reason, this thesis answered the research questions as they applied to the DAWIA and NCMA certification requirements. The results of this study should not be translated as an assessment of all available certification programs.

The certification programs discussed in this study are applicable to members in all branches of the armed forces. Although the various components differ in the execution of specific contracting functions, all are subject to the certification requirements instituted through DAWIA and, as acquisition professionals, all are afforded the opportunity to

seek certification from NCMA. However, in order to foster a prolonged discussion between experts, this study was limited to two discussion groups from the Air Force's contracting career field. Both active duty military and civilian members were invited to participate.

## II. Literature Review

### *Introduction*

This chapter discusses the relevant literature reviewed in preparation for this study. The first portion of the chapter establishes the role of professional certification and the benefits realized by certified individuals, certifying associations, and the profession in general. Next, a brief definition of the contracting career field presents a context for applying the literature to this study. The chapter concludes with a review of existing certification requirements for those programs available to the Air Force's acquisition workforce, specifically the contracting career field, and a summary of the common and unique characteristics among the programs.

### *Purpose of Professional Certification*

The Air Force's requirement for all acquisition professionals to be certified through the Acquisition Professional Development Program (APDP) came in direct response to the Defense Acquisition Workforce Improvement Act (DAWIA), implying that the program works toward the betterment of the workforce. Professional certifications have two goals at their foundation: (1) the promotion of competencies by measuring distinctions between the skills of experienced practitioners and entry-level employees; and (2) enhancing the profession by standardizing the proficiency required before an individual can obtain professional status and the requirements to be met before one can enter the field of practice (Wiley, 1995: 271). Certification requirements include various levels of training, education, and experience. Intuitively, it is not hard to imagine that



individuals would find value added to their personal careers by receiving advanced skills through the completion of certification requirements. However, there is some concern as to whether professional certification programs also meet the strategic goals for which they were intended.

Certification “indicates that an individual has attained professional standing in a given field” (Keating, 1998: 51). Individuals designated by a certification enjoy a variety of opportunities for career progression. Although most organizations do not require all employees to receive certification, there are often policies that preclude certain positions from being held by other than a certified individual. The National Association of Purchasing Management (NAPM) vice president of certification was quoted as saying, “Certainly a reason for the C.P.M. is to advance a career. Holding that credential will help people with their career path” (Ciancarelli, 1999: 114). A salary survey conducted by Purchasing Magazine reported a 26 percent higher salary for purchasing professionals with a C.P.M. certification (Ciancarelli, 1999: 114).

In addition to higher pay, certification programs offer individuals a valuable networking resource (Patterson, 1997: 64; Ciancarelli, 1999: 114). Often, members of various organizations seeking the same certification attend training courses and seminars together. At these courses, students can learn as much from each other as they do from the instruction material. In the course of pursuing a professional certification, individuals meet future employers, employees, or business partners they might not have contacted otherwise.

Beyond the benefit to individuals, certifications also serve organizations. Certifying associations experience an increase in membership as the recognition of the profession

increases. These associations can also gain substantial non-due revenue through the administration of a professional certification program (Peluso, 2000: 65). Purchasing associations charge fees as high as \$540 for certification applications as well as periodic fees to reestablish a current certification. The revenue and notoriety provided by a respected certification program are essential to the association's continued ability to provide professional development resources to its members.

If certification programs benefited only individual careers and the administering associations, it would be unlikely an organization such as the DoD would place strategic emphasis on the certification of its workforce. But DAWIA and APDP did have a strategic intent as the basis for their inception. In Sociology of Occupations and Professions, Pavalko found certain qualities attributable to professions:

- (1) A unique knowledge base justifying the claim to special expertise.
- (2) A long training period requiring specialized knowledge and indoctrination into the occupational culture.
- (3) Relevance of work to social values.
- (4) A service versus a profit motivation.
- (5) Occupational autonomy. The profession is self-regulating and self-controlling. Only members of the profession judge and certify who is competent to practice.
- (6) A strong sense of commitment and loyalty to the profession.
- (7) A strong sense of identity resulting in a significant subculture.
- (8) A code of ethics and system of norms that are parts of the subculture, reinforcing motivation, autonomy, and commitment. (Snider, 1996: 98)

Through certification, professions can express collective ideals, strengthen the sense of those ideals and responsibility among its members, improve practice, and raise awareness

of the profession's technical contribution to society and its framework of values (Imrey, 1994: 69). DAWIA intended to professionalize the acquisition workforce by "treating them as though acquisition has some of the attributes of a profession" (Snider, 1996: 99). Acquisition has been determined to require a unique knowledge base and specialized training and experience. "The workforce then becomes professional by meeting the requirements for acquisition education, training, experience, and tenure provided for under DAWIA" (Snider, 1996: 99). The purpose of DAWIA, and the certification programs established by DAWIA, was to enhance the professionalism of the acquisition workforce, those individuals doing business in a career field that possesses the qualities of a profession. While the efforts to do so have to occur on an individual basis, this investment in employee development was expected to result in returns of improvement to the overall acquisition process for the DoD (Snider, 1996: 100). DAWIA did not simply offer a service to members of the acquisition workforce, it was a strategic initiative aimed at improving the manner in which the DoD conducts the business of acquisition. The numerous reforms to the acquisition process over the past decade require an able, professional workforce for successful implementation.

While the intention of DAWIA and the basis for the APDP certification program is strategic in nature, there is some concern regarding the execution of the certification program and its ability to meet those strategic goals. Establishing a professional certification requires the development of some minimum standard to qualify an individual for a certificate. A senior vice president at Ronin Enterprises asks, "Do certification processes enhance responsibility, or does the existence of external, and usually minimal standards which give us a 'passing grade', contribute to the decline of

the very professionalism they purport to support (Levit, 1995: 292)?” An instructor at Defense Acquisition University (DAU) witnessed more senior civilian and military officer students who gave their reasons for attending the course in terms of “filling a square” on their certification application than those who cited professionalism and developmental purposes (Snider, 1996: 97). DAWIA and its certification programs are well intentioned in seeking to fashion a professional workforce; however, it might be argued that DAWIA is only one point on the path to professionalism and that some level of cultural change will be necessary for the organization to fully realize its potential strategic benefits (Snider, 1996: 103).

Professional certifications, including that managed within the Air Force, support multiple motivations – some organizational and some personal. The strategic goals of process improvement, reform, and efficiency must rely on the development of the individuals who carry out those initiatives. The personal, careerist goals of individuals are what Snider terms to be the “price of professionalism,” a necessary side effect of improving a profession through certification. However, there is still some question as to which goals, the strategic or personal, take precedence within the program.

### *The Contracting Career Field*

Chapter I established the scope of this study as encompassing the certification programs for individuals in the Air Force’s contracting career field. The contracting career field is described as follows:

The contracting career field includes the positions of contract negotiator, contract specialist, contract termination specialist, contract administrator, procurement analyst, administrative contracting officer, procuring contracting

officer, contract price and/or cost analyst, contracting officer, and termination contracting officer. Individuals in this career field develop, manage, supervise, or perform procedures involving the procurement of supplies and services; construction, research, and development; acquisition planning; cost and price analysis; selection and solicitation of sources; preparation, negotiation, and award of contracts; all phases of contract administration; and termination, or close out of contracts. The employee is required to have knowledge of the legislation, policies, regulations, and methods used in contracting, as well as knowledge of business and industry practices, sources of supply, cost factors, cost and price analysis techniques, and general requirements characteristics. (Defense Acquisition University, 1999: 28-29)

The sections that follow describe specific certification programs as they apply to individuals in the contracting career field.

### *Certification Requirements*

*DoD Acquisition Career Development Program.* The Career Development Program for Acquisition Personnel (CDPAP) was established in response to DAWIA wherein the Under Secretary of Defense (Acquisition) (USD(A)) is required to “establish education, training, and experience standards for each acquisition position based on the level of complexity of duties carried out in that position” (Department of Defense, 1991: 2). In 1995, the CDPAP was replaced by the DoD Acquisition Career Development Program (ACDP), under the Under Secretary of Defense for Acquisition and Technology (USD(A&T)) (Department of Defense, 1995: i). The purpose of the ACDP is to develop a highly qualified acquisition workforce, on a long-term basis, while increasing the proficiency of the current workforce; thereby improving overall management and professionalism and providing opportunities for individuals to broaden their experience and progress in their careers (Department of Defense, 1995: 1-1).

DoD Acquisition personnel are required to possess the appropriate level of training, education, and experience required by their position. The ACDP established both mandatory and desired standards for each acquisition career field and addressed certain statutory requirements for particular positions. These additional statutory requirements are not relegated to all positions and vary between those positions having those requirements and, therefore, will not be addressed in this study of the certification programs in general.

The contracting career field is divided into three career levels for the purpose of certification: basic or entry (Level I: GS-05 through GS-09, officer O-1 through O-3); intermediate or journeyman (Level II: GS-09 through GS-12, officer O-3 through O-4); and advanced or senior (Level III: GS-13 and above, officer O-4 and above) (Department of Defense, 1995: 2-1). The grade levels represented above are provided to assist in career development planning but vary and may include enlisted grades. For example, many Air Force deployment positions are filled by enlisted members and require a minimum certification level. All DoD acquisition personnel are encouraged to pursue the next level of certification regardless of their grade or position; however, training quotas will give preference to those in current positions requiring the next level of certification.

The following excerpt from DoD 5000.52-M explains each level of certification:

Basic or Entry Level (Level I)

(1) Basic level training standards are designed to establish fundamental qualifications and expertise in the individual's acquisition career field. Development at the basic level lays the foundation for career progression and is designed to prepare qualified, motivated personnel for positions of increasing responsibility.

(2) At the basic level, individuals should be exposed to the functions of acquisition and the roles of its various specializations. Besides participating in education and training courses, it is extremely beneficial for individuals to develop

additional and enhanced capabilities through structured on-the-job rotational assignments between a variety of functional offices.

Intermediate or Journeyman Level (Level II)

(1) At the intermediate level, specialization is initially emphasized. Development continues, including rotational assignments, but the responsibilities and length of time an individual spends in each position generally increase.

(2) While specialization is emphasized at the beginning of this level, the individual should later begin to broaden his or her background toward a more general expertise in the overall processes of his or her acquisition career field. Development of the generalist normally involves establishing a good foundation of experience in the employee's primary specialty followed by multi-functional experience accomplished by lateral movement to a related acquisition specialty.

Advanced or Senior Level (Level III)

At the senior level, advanced acquisition education and training become essential. Individuals at this level should seek acquisition related opportunities available through the DoD Components, or pursue other formal education opportunities.  
(Department of Defense, 1995: 2-2)

To ensure each individual member of the acquisition workforce meets the requirements of their career level, the ACDP established certification standards. The certification standards prescribed by DoD 5000.52-M are DoD wide and implemented without supplementation by individual DoD Components (Department of Defense, 1995: 2-4). Individual components are responsible for implementing and managing the ACDP internally; to fulfill that purpose the Air Force instituted the Acquisition Professional Development Program (APDP). The current certification standards of each career level for contracting personnel are given in Table 1; there are currently no requirements for re-certification.

*National Contract Management Association (NCMA)*. The other certification program evaluated during this study was that offered by NCMA. NCMA is an individual-membership society for contracting professionals whose officers are elected volunteers.

**Table 1. ACDP / APDP Certification Requirements**

CAREER LEVEL	EDUCATION	EXPERIENCE	TRAINING
Entry Level (I)	<p><u>Have ONE of:</u></p> <p>Baccalaureate Degree;</p> <p>24 Semester Hours accounting, law, business finance, contracts, purchasing, economics, industrial management, marketing, quantitative methods, or organization and management</p> <p>10 years contracting experience as of 1 Oct 91</p>	1 year in contracting	<p>Basics of Contracting (CON 101)</p> <p>Principles of Contract Pricing(CON 104)</p>
Intermediate Level (II)	<p>Same as Level I</p> <p>(Desired) Graduate studies in business administration or procurement</p>	<p>2 years in contracting</p> <p>(Desired) 2 additional years in contracting</p>	<p>Intermediate Contracting (CON 202)</p> <p>Intermediate Contract Pricing(CON 204)</p> <p>Government Contract Law (CON 210)</p>
Advanced Level (III)	<p>Same as Level I</p> <p>(Desired) Masters degree in Business Administration or Procurement</p>	<p>4 years in contracting</p> <p>(Desired) 4 additional years in contracting</p>	<p>Executive Contracting (CON 301)</p> <p>Management for Contracting Supervisors (CON 333)</p>

*Note.* Entries in the "Training" column denote DAU course titles. Table content derived from the Defense Acquisition University Fiscal Year 2000 Course Catalog, Appendix C.



NCMA was founded in 1959 to “foster the professional growth and educational advancement of its members” (NCMA web site, 2000). In an effort to be the “preeminent source of professional development for contract managers,” NCMA developed two certifications available to both members and non-members: the Certified Associates Contracts Manager (CACM) and the Certified Professional Contracts Manager (CPCM). NCMA states that these programs exist to distinguish individuals demonstrating professional growth and development in contract and business management (NCMA, 2000: 4). The Association believes certification benefits both the professional and the profession by enhancing individual development, assuring employers of an individual’s qualification, and providing the professional community (presumably, clients included) with a measure of excellence (NCMA, 2000: 4). Some acquisition professionals view the CACM as a step toward achieving the CPCM, while others believe the CACM to be the top certification offered by NCMA; the association does not claim a preference for one certification over the other (NCMA, 2000b: 5). The CPCM certification recognizes individuals demonstrating a high level of knowledge and experience in contracting and other procurement disciplines. Although not specifically a Government acquisition certification, the DoD encourages the acquisition workforce to pursue the CPCM as well as the CACM. The requirements for obtaining the CPCM are detailed in Table 2.

The CPCM examination is an all essay test consisting of two sessions. The first session tests the individual’s knowledge of general contracting principles, while the second session is concentrated in seven specific areas: legal; finance, economics, and accounting; production; contracting; logistics management; commercial purchasing; and

state and local government procurement (NCMA, 2000: 9). Re-certification is required every five years through the completion of a total of 60 hours of instruction, 10 of which

**Table 2. CPCM Certification Requirements**

FORMAL EDUCATION	RELEVANT EXPERIENCE	TRAINING	EXAMINATION
Bachelor's Degree	2 years experience in: procurement, legal, MIS/IT, inventory mgt, project mgt, production, R&D, marketing, QA, finance, business mgt	8 non-credit, certificate, or continuing education courses	Completion of CPCM exam

*Note.* Formal education requirements are waiverable on a case-by-case basis if the individual possesses at least 2 years of college and 10 years relevant experience, while the experience requirement is waiverable if the individual possesses a bachelor's degree. Applicants must verify formal education, experience, and training requirements are met to be eligible for the examination. Table content derived from CPCM Information Packet, 5th Edition.

must be within the 18 months prior to re-certification (NCMA, 2000: 15). If this continuing education is met within the five-year deadline, the examination need not be retaken.

The CACM was initiated in 1980 and recognizes mastery in the fundamentals specific to Government acquisition (NCMA, 2000b: 4-5). CACM eligibility requirements are on a point system along with a written examination. Applicants must have a total of 7 points, with at least one point in each of three categories. The requirements for obtaining the CACM certification are detailed in Table 3.

Unlike the CPCM, the CACM multiple-choice examination is based solely on the information contained in the Federal Acquisition Regulation (FAR) (NCMA, 2000b: 9).

The re-certification requirements for the CACM are identical to those of the CPCM.

Each program allows lifetime certification for individuals at age 60 during their re-certification period, or retired from the profession at age 55 or older.

**Table 3. CACM Certification Requirements**

FORMAL EDUCATION	ACQUISITION EDUCATION & TRAINING	RELEVANT EXPERIENCE	EXAMINATION
<b>Degree:</b> Associates (2 pts) Bachelor's (4 pts) Master's/ Doctorate (6 pts)	1 point for each course attended (courses must have a minimum 24 contact hours)	1 point awarded for each year of experience	Completion of CACM exam
<b>Semester Hrs:</b> 30-59 (1 pt) 60-89 (2 pts) 90-119 (3 pts) 120+ (4 pts)			

*Note.* The formal education requirement may be waived if an applicant has 10 years experience and 24 CEUs, or has earned the Simplified Acquisition Specialist Credential and 10 CEU. Applicants must verify formal education, experience, and training requirements are met to be eligible for the examination. Table content derived from CACM Information Packet, Appendix A/1.

*National Association of Purchasing Management (NAPM).* The scope of this study was limited to the evaluation of the two certification programs detailed above; however, in an effort to glean as much information as possible concerning the administration of certifications in general, all nationally recognized professional certifications for contracting were reviewed. Like the NCMA, the NAPM offers two distinct certifications to both members and non-members. NAPM, however, does recognize its Accredited Purchasing Practitioner (A.P.P.) certification as secondary to its Certified Purchasing

Manager (C.P.M.) program; individuals are not required to achieve the A.P.P certification prior to receiving the C.P.M. designation.

NAPM was founded in 1915 with the stated purpose of providing “national and international leadership in purchasing and materials management, particularly in the areas of education, research and standards of excellence.” In 1974, NAPM established the C.P.M. program, designed for experienced individuals working in purchasing and supply management and focuses on managerial and leadership skills, a variety of specialized functions (e.g., sourcing analysis, supply and inventory management, forecasting), and operational aspects of the purchasing and supply function, such as identifying requirements, preparing solicitations and agreements, negotiations, technology, quality, and maintaining relationships. In 1996, NAPM supplemented its current certification processes through the establishment of the A.P.P. program for “(a) entry-level buyers who are primarily engaged in the tactical and operational side of purchasing, and (b) persons who work *outside* the organization's purchasing/supply management department, but nevertheless have definite procurement responsibilities.” (NAPM web site, 2001)

The A.P.P. and C.P.M. are available to the defense acquisition workforce as well as those working in private and other not-for-profit business sectors. The requirements for achieving certification through NAPM are given below in Table 4.

Both programs require re-certification every five years. The A.P.P. program calls for 42 hours of continuing education through college courses (taken or taught), PCE (taken or taught), or the successful completion of any of the exam modules for either certification. C.P.M. certificants must re-certify by attaining 12 “points” through college courses (taken or taught), PCE (taken or taught), contributions to the profession, or the

successful completion of modules 3 and/or 4 of the latest C.P.M. examination. At least two-thirds of the points must be educational in nature. Both programs offer lifetime certifications for individuals documenting at least 18 years of full-time professional purchasing and supply management experience. (NAPM web site, 2001)

**Table 4. NAPM Certification Requirements**

CERTIFICATION LEVEL	FORMAL EDUCATION	EXPERIENCE	EXAMINATION
A.P.P.	Associate's Degree	1 year professional experience (purchasing/supply mgmt may be a secondary duty)	Successfully pass both modules of A.P.P. exam
C.P.M	Four-year Degree	3 years full-time professional purchasing/supply mgmt experience	Successfully pass all four modules of C.P.M. exam

*Note.* The A.P.P. education requirement may be replaced by an additional year of professional work experience. The C.P.M. education requirement may be replaced with an additional two years of full-time purchasing and supply management experience. Table content derived from NAPM Official Web Site, 2001.

*National Institute of Governmental Purchasing (NIGP).* The NIGP was founded in 1944 and “provides its membership with education, research, technical assistance and networking opportunities in public purchasing; while promoting excellence, enhancing effectiveness and increasing public trust” (NIGP web site, 2001). NIGP initiated the Certified Public Purchasing Officer (CPPO) program, the first professional certification offered by a national professional purchasing association, in 1964, and the Professional Public Buyer (PPB) certificate in 1979 (UPPCC, 2000: 6). In 1978, NIGP joined with the

National Association of State Procurement Officials (NASPO) to establish the Universal Public Purchasing Certification Council (UPPCC) to “establish, monitor, and revise requirements for certification; to continue research efforts relating to the certification of public purchasers; to coordinate with other NIGP and NASPO programs in order to further the certification of public procurement officers; and to do all things necessary and proper to promote and insure professionalism in public procurement” (UPPCC, 2000: 6). The PPB certificate was re-named the Certified Professional Public Buyer (CPPB) in 1991.

In order to receive either certification, applicants must successfully complete the examination requirements respective to the program. In addition to the examination requirements, the UPPCC has established eligibility requirements that must be met in order to sit for an examination. The levels of professional education and experience vary with the level of formal education possessed by an applicant. The eligibility requirements for the CPPB and CPPO certificates are listed below in Tables 5 and 6.

Once an applicant’s eligibility is verified, the applicant has 2 years to successfully complete the CPPB examination. The exam is comprised of 240 multiple choice and true-false questions in the areas of: Administrative Aspects of Purchasing, Procurement Requests, Solicitation and Evaluation of Bids/Proposals, Negotiation Process, Contract Award and Administration, External/Internal Relationships, Material Flow, and Inventory Management (UPPCC, 2000: 16). The UPPCC uses a point system to establish re-certification requirements. CPPB holders must re-certify every five years by attaining 10 points in a minimum of two of the following three categories: (1) Membership; (2) Professional Contributions; and (3) Education and Training (UPPCC, 2000: 18).

**Table 5. Certified Public Purchasing Buyer (CPPB) Eligibility Requirements**

LEVEL OF FORMAL EDUCATION	PROFESSIONAL EDUCATION	EXPERIENCE
High School Diploma or GED	12 college credit hours in purchasing or 96 contact hours in purchasing seminars	5 years in purchasing; must include 3 years public purchasing
Associate's Degree	Same as above	4 years in purchasing; must include 3 years public purchasing
Bachelor's Degree	6 college credit hours in purchasing or 48 contact hours in purchasing seminars	2 years public purchasing
Master's or Advanced Degree	3 college credit hours in purchasing or 24 contact hours in purchasing seminars	2 years public purchasing

*Note.* Table content derived from Universal Public Purchasing Certification Council Handbook, July 2000.

CPPO applicants must complete a 240-question test similar to that administered to CPPB candidates but with a focus on buyer-related issues and an oral examination before a panel of CPPOs who evaluate the applicant's communication and problem solving ability (UPPCC, 2000: 16). CPPOs must attain 15 re-certification points, in two of the three aforementioned categories, within each five-year re-certification period (UPPCC, 2000: 18). CPPOs and CPPBs who have retired after at least 15 years of purchasing experience may apply for a lifetime certification at the time of retirement or at age 62 (UPPCC, 2000: 19).

**Table 6. Certified Public Purchasing Officer (CPPO) Eligibility Requirements**

LEVEL OF FORMAL EDUCATION	PROFESSIONAL EDUCATION	EXPERIENCE
Holder of CPPB Certificate (less than Bachelor's Degree)	18 college credit hours in purchasing or 144 contact hours in purchasing seminars	8 years in purchasing; must include 6 years public purchasing (3 of which must be in a management function)
Bachelor's Degree	6 college credit hours in purchasing or 48 contact hours in purchasing seminars	3 years in purchasing; must include 2 years public purchasing in a management function
Master's or Advanced Degree	3 college credit hours in purchasing or 24 contact hours in purchasing seminars	Same as Above

*Note.* Table content derived from Universal Public Purchasing Certification Council Handbook, July 2000.

#### *Measured Qualifications for Certification*

The review of popular certification programs available to members of the contracting career field identified five measured qualifications used to determine an individual's suitability for certification: (1) Formal Education; (2) Professional Education or Training; (3) Professional Experience; (4) Performance on a Comprehensive Examination; and (5) Continuing Professional Development (assessing the individual's qualification for continued certification). In addition, all of the certification programs required certificants to uphold a standard of ethical behavior. Table 7 identifies the measured qualifications required under each certification program reviewed.

Of all certifications reviewed, the Air Force's APDP was the only program to certify individuals at progressive levels; other associations offer multiple certifications but do



**Table 7. Certification Requirements Compared**

PROGRAM	MEASURED QUALIFICATIONS REQUIRED				
	Formal Education	Experience	Training	Examination	Re-Certification
APDP (Air Force)	X	X	X		
CACM (NCMA)	X	X	X	X	X
CPCM (NCMA)	X	X	X	X	X
A.P.P. (NAPM)	X	X	X	X	X
C.P.M. (NAPM)	X	X	X	X	X
CPPB (NIGP)	X	X	X	X	X
CPPO (NIGP)	X	X	X	X	X

not require one certification ahead of the other. The APDP was also the only program that did not require the completion of a comprehensive examination or periodic re-certification. The Air Force does have a continuous learning policy to ensure continued education and training; however, that policy is not currently enforced through the APDP certification process. The certifications offered through NCMA and NIGP differed from the others in that these programs required applicants to meet training, experience, and education requirements in order to be eligible to sit for the required examination. The APDP and NAPM certifications do not indicate an order for completing the various requirements. None of the certification programs reviewed required individuals to meet minimum education or experience requirements prior to attending professional training. Overall, the professional associations valued all categories of qualification as indicative of an individual's suitability for certification, whereas the Air Force seems to have placed

confidence in the quality of its training to the extent that a comprehensive examination or re-certification are not necessary.

The measured qualifications used to determine an individual's suitability for certification seemed appropriate for indicating an individual's professional status in that each supported at least one of Pavalko's attributes of professions. Requiring formal education and professional training demonstrated the contracting career field demands a unique knowledge base. Requiring each certification applicant to have experience in the career field upheld the professional attributes of a long training period for indoctrination and a strong sense of identity as a separate profession. Preparing for a detailed examination and attending training courses require a significant investment of time and effort on the part of each potential certificant; these requirements supported the profession's desire that individuals express a strong sense of commitment and loyalty to the profession. The requirement for continued development after initial certification reinforced the professional attributes of specialized knowledge, training, and commitment to the profession. Finally, as previously stated, each certification program required adherence to a code of ethics, linking professional certification to social values in addition to personal development; Pavalko found both of these features as qualities attributable to professions.

### *Summary*

Based on a review of the relevant literature, the researcher developed some preliminary conclusions regarding the purposes for professional certification and the methods used by certifying associations to fulfill those purposes.

The DoD's primary purpose in developing a mandatory certification process as well as encouraging the pursuit of other certifications was to prepare the acquisition workforce to implement continuing improvements to the defense acquisition process. Effectively, this purpose was accomplished through the professionalization of the workforce. Inherent in this method of overall process improvement, personal development and credential building for individuals assists in their career progression and advancement opportunities. The workforce includes commissioned officer, enlisted, and civilian personnel; although these three employee types must meet different requirements to enter the profession of defense acquisition, the researcher found all personnel to be subject to identical certification requirements.

The certification programs available to members of the contracting career field, including the Air Force's APDP, were reviewed and their requirements synopsized. This process of review identified five measured qualifications used to determine an individual's suitability for certification. These qualifications were compared to Pavalko's qualities of professions and were determined to serve the purpose of measuring an individual's fitness for certification by establishing criteria to gauge the individual's professional status in terms of the qualities of the overall profession.

The next chapter will describe the methodology used to compare and evaluate the APDP and NCMA certification programs.

### III. Methodology

#### *Overview*

This chapter describes the methodology employed to obtain the study's data for analysis. Unlike most research methods, the techniques used in this study were not for the purpose of manipulating or analyzing existing data, but rather for actually creating and collecting original data. This chapter establishes the need for such a methodology and then reviews the principals for implementing that methodology. The chapter concludes by describing the research design.

#### *Basis*

The strategic goals of certifying professionals in the contracting career field are difficult to assess through measurement or statistical manipulation. To discover whether the current certification programs fulfill the purposes of certification discussed in Chapter II, it was necessary to look beyond the available hard data that record the volume of certifications granted or average examination scores. This study was more interested in whether certification of an individual actually represents and results in the betterment of the acquisition workforce as intended. In order to make such an assessment, it was necessary to rely on the soft data sources of judgment and opinion.

While any individual with a measure of knowledge on the subject can offer opinion and enter discussion on the matter, this study required thought and judgment concerning strategic organizational objectives. This being the case, the discussion necessary to

generate the soft data required was conducted utilizing experts in the career field. The definition and selection of such individuals will be discussed in more detail later.

Rather than obtaining individual expert assessments and comparing the results, experts had to carefully consider their positions in order to defend those positions in the face of alternative opinions held by other experts. When the best input on a topic is determined to be available from an expert, it logically follows that the input of multiple experts will achieve a superior result; however, the likelihood that experts will disagree requires the consolidation of inputs to form an overall “group opinion” (The Editors, 1969: 80). Conducting such a discussion often takes place through the formation of Integrated Process Teams (IPTs) or round-table style sessions. The “group opinion” achieved through these methods can often be better described as compromise rather than consensus (The Editors, 1969: 80). An alternative to these traditional methods is an exchange format known as Delphi.

### *Delphi*

Delphi has been defined as a “method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem” (Linstone and Turhoff, 1975: 3). Delphi was developed in the early 1950s during an Air Force sponsored study at The RAND Corporation to apply expert opinion in determining the number of A-bombs needed by the Soviets to reduce U.S. munitions output by a certain quantity (Dalkey and Helmer, 1963: 458). The method was initially believed to be primarily a prediction technique. Prior to 1974, the only known applications of Delphi within the Defense Department were for the purpose of forecasting

needs or outcomes (Elsbernd, 1974: 49-51); however in the years since its development, the method has been used for a variety of applications involving the evaluation of options, causal relationships, or any issue where the data requires a dimension of judgment (Linstone and Turhoff, 1975: 4).

A review of the literature on Delphi revealed a lack of prescribed format for the conduct of studies under the method. Although there are no pre-established steps in performing Delphi experiments, there are basic principles and phases in the research. Dalkey and Helmer defined three distinct properties of any study naming Delphi as the method: (1) anonymity of panel members, (2) iteration and controlled feedback and (3) statistical group response (Dalkey, 1969: 16). The anonymity feature allows respondents to freely express opinions without the influence of intimidation or pressure to conform by dominant group members (Dalkey, 1969: 16). Dominant group members might be those recognized as the foremost expert on a subject or those of superior rank or position to other group members. If dominant members are permitted to influence the rest of the group it is likely that the discussion will not achieve results any better than those that could be attained by simply soliciting the single opinion of the most dominant group member. Controlled feedback is a method for eliminating extraneous material and consolidating duplicate responses by conducting iterations of discussion separated by a summary of the previous sessions inputs (Dalkey, 1969: 16). By formulating a statistical group response, the researcher assures each respondent's input is present in the final response and reduces the pressure of group conformity by revealing the spread between varying opinions (Dalkey, 1969: 16).

Linstone and Turhoff find four basic phases of a Delphi discussion: (1) initial exploration of the issue, (2) formulating an understanding of group agreement or disagreement, (3) discovering and evaluating the underlying reasons for disagreement and (4) a feedback of the response evaluations to the group for consideration (Linstone and Turoff, 1975: 5-6). These four phases represent a single iteration of the process; multiple iterations will likely be necessary to achieve an accurate “group opinion”. The total number of iterations required will depend on the complexity of the issue and the amount of information available to the respondents.

Since its development, Delphi has been subject to much testing and debate over the validity of the method. Several RAND studies initiated after the initial report by Dalkey and Helmer addressed the validity, value, and generalizability of the method (Dalkey, 1969; Dalkey, Brown and Cochran, 1969, 1970; Dalkey and Brown, 1971). A good synopsis of these studies is offered by Seaver, concluding that little experimental evidence is available to draw a definite conclusion when comparing the Delphi method with other methods of determining group judgment (Seaver, 1976: 42). Seaver also points to critiques by Pill (1971) and Sackman (1974) that attack the lack of scientific theory behind the method (Seaver, 1976: 43). Helmer admits as much in his foreword to Linstone and Turhoff stating, “Delphi still lacks a completely sound theoretical basis” (Linstone and Turhoff, 1975: xix).

From the earliest application of Delphi, Dalkey and Helmer warned of dangers to the validity of a Delphi project. In the original Delphi study the experts interacted in daily operations and may have influenced one another’s response and the researchers used at least one respondent as a consultant (Dalkey *et al.*, 1969: 466). The researchers also

admit that “leading” the respondents may be a result of the central synthesis of individual responses (Dalkey *et al.*, 1969: 467). These difficulties are not entirely unavoidable; however, the responsibility for protecting the study from such compromises must fall squarely on the researcher.

Van de Ven and Delbecq also note that Delphi prevents the opportunity for social rewards and results in a feeling of detachment of group members from the problem, and that conflicts are not truly resolved where majority rule is employed as the determinant of group opinion (1974: 619). At the same time they concede that Delphi does offer a freedom from conformity pressure, results in a high quantity of idea input, and allows the respondents to thoroughly consider and formulate their positions (1974: 619).

Though arguments against the theoretical basis of Delphi persist, there is no question that Delphi is an innovative technique for gathering expert judgments while controlling political dynamics and groupthink. Any researcher should thoroughly consider the applicability of Delphi to their method before embarking on a study. For the purposes of this research, Delphi is a facilitator for collecting a quantity of ideas from experts and a venue for discussion and argument. The principles of Delphi will be used to construct a research design that results in the receipt of the needed information; the methods of assessing the data achieved through Delphi will be statistical in nature and theoretically sound. This study will take the appropriate measures to ensure the discussion is directed in a manner that does not misrepresent any individual response and that the responses remain truly independent.

This study benefited from the Delphi methodology most in that groups of experts were able to hold a detailed discussion over time with minimal interruption to daily



schedules so that participation could be heightened and result in a more comprehensive collection of ideas. Respondents did not have to travel, making the research significantly less costly. Since respondents were not confined to a single meeting to arrive at a group opinion, there was little pressure to conform in the interest of reaching an expedient conclusion. Finally, the anonymity of the respondents ensured each input was equally weighted and dominant personalities did not result in a distortion of the actual group opinion.

### *Research Design*

*Selecting Experts.* Since no universal set of criteria exists for identifying an individual as an expert in a particular field, it was necessary to establish a set of criteria for the purposes of this study. The intent of the study was to gather opinions concerning the success or failure of current certification programs. It was imperative that participants had experience witnessing the effects of the certification programs on the acquisition workforce. To ensure this, participants were required to have a minimum 10 years experience in the career field and to have served in a supervisory capacity. To ensure each participant had first hand knowledge of the conduct of the certification programs, they were required to have successfully completed APDP Level III certification. A minimum pay-grade of O-4 (military) / GS-12 (civilian) was established to demonstrate the participant's expertise had resulted in successful career performance. In an effort to avoid a single organizational effect on the groups' opinions, participants were selected from four MAJCOMs and included individuals working in both operational and systems contracting as well as headquarter administrative positions.

In determining the number of experts to include in the study, some guidance was found in literature recommending five to nine experts, urging a minimum of five (Meyer and Booker, 1991:87). Consistent with this recommendation, two separate groups were formed: one consisting of six active duty military members, the other consisting of six civilian employees. Following the terms of the Delphi methodology, the experts' identities were known only to the researcher and that anonymity preserved throughout the conduct of discussions. A complete list of those participants granting the researcher permission to publish their identities in the final report is provided in Appendix A.

Since all of the participants shared many similar characteristics in that all were APDP Level III certified, had comparable levels of experience, and filled a variety of duty positions, the researcher decided to use the individual's status as either active duty military or civilian as the dividing point for the two groups. Forming two separate groups allowed the researcher to guide separate discussions, rendering the opportunity to explore multiple issues without overwhelming a single group. More importantly, it afforded the occasion to conduct a cross-case analysis of divergent responses and differing patterns between the groups. Such cross-case analysis has been determined to be important in guarding against premature conclusions and improving the probability for accurate and reliable deductions from the data (Eisenhardt, 1989: 541).

*Cycles of Discussion.* Eight Delphi iterations were conducted during the course of the study. The iterations were divided into four separate cycles. The first cycle was comprised of a single iteration where participants submitted initial answers to five questions formulated to assess the value added by the *measured certification*

*qualifications* summarized in Chapter II: (1) Level of Formal Education; (2) Level of Professional Education or Training; (3) Level of Professional Experience; (4) Level of Performance on a Comprehensive Examination; and (5) Continuing Professional Development. In addition, the initial questionnaire included two questions concerning the appropriate number of certification levels and whether commissioned officers, enlisted, and civilian employees should meet the same requirements. In Chapter II, the researcher established that these measured qualifications served to operationalize several of Pavalko's qualities attributable to professions; certification qualifications were focused on a specific purpose, but also supported strategic objectives. The panels were not instructed to answer the questions in terms of the qualities of professions, nor were they furnished with Pavalko's list of attributes. The researcher used the first cycle of discussion to verify the credibility of the panelists as properly selected to assess the strategic goal fulfilling ability of certification programs. The responses to the initial questionnaire were analyzed to determine whether the experts were inclined to address professional certifications in strategic terms without prompting. In this manner the researcher validated two key principles of the study: (1) that professional certifications served strategic purposes; and (2) that the initial questionnaire was appropriate for generating discussion directed toward strategy.

The second cycle consisted of five iterations, each readdressing a single item from the initial questionnaire. The participants were provided a synopsis of the comments generated during the first cycle and then asked additional questions allowing each to clarify or reevaluate his or her position in light of the input from other participants.

The third cycle asked each participant to review a synopsis of the discussion to that point and then select a position on the optimal number of certification levels; a single iteration was used. The participants then commented on the format of the other measured certification qualifications within the bias of their position on certification levels.

The fourth cycle used the final iteration to ask for each participant's recommendations for changes to the current certification programs, based on the discussion conducted in the previous cycles.

*Assessing the Certification Programs.* Following the completion of the discussion cycles, the researcher gathered all expert input and attempted to glean an overall group opinion. Comparing the group discussion data to existing certification requirements, the researcher then made recommendations that the experts believe will improve the current certification programs and benefit the professional development of the Air Force contracting workforce. The findings of the study follow in Chapter IV.

## IV. Findings and Analysis

### *Overview*

This chapter provides a detailed account of the results of the research accomplished under the design and methodology described in Chapter III. Prior to the discussion cycles, the researcher provided each participant an overview of the study and a Participant Profile Questionnaire. This initial information can be found in Appendix B. The study included eight iterations of discussion within four distinct Delphi cycles. The results of the discussion are presented in chronological order by cycle.

### *Delphi Cycle 1*

The first cycle of discussion included the dissemination and subsequent response to an initial questionnaire. The response rate to the initial questionnaire was 100 percent. Participants were asked seven questions concerning the certification of contracting professionals in general. Since this was the first cycle of discussion, both the military and civilian panel received the same questionnaire; however, the responses were analyzed separately so that subsequent cycles of discussion could be tailored specifically to the group. The questionnaire is presented in full text in Appendix C; a synopsis of specific responses is provided in Appendix D.

*Question 1.* What value does formal education provide to the workforce that cannot be achieved through experience and training? What specific degrees or disciplines should be required? At what level (BS, MS, PhD...)?

*Civilian Responses.* All respondents believed that formal education provided value to the workforce. Panel members stated that formal education: “supplies a broad base of learning, well-rounded personnel; draws on topics not focused on in training or achieved through experience,” “adds credibility and credentials,” and “facilitates a network that can be utilized in the work world.” The group also agreed that degree requirements need not be limited to a business curriculum; that the process of formal education in any discipline improves the workforce. Overall, respondents were in favor of formal education as a requirement for certification, although there was some disagreement on the level of education to require.

There were different thoughts on the level of education that should be required. Some respondents recommended different requirements for different levels of certification, others concentrated on an individual’s position or grade level. Overall, it was not clear, at the end of the first cycle, whether the group believed the formal education requirement must be met through the completion of a degree or a lesser amount of coursework. Some respondents recommended different requirements for enlisted personnel, others made no such distinction. Two respondents did not mention a particular level of education to require. In an effort to clarify the overall group opinion in this area, the subject was reevaluated through a different but related line of questioning in Cycle 2a.

*Military Responses.* All respondents believed that formal education provided value to the workforce. As with the responses from the civilian panel, the group emphasized the academic process and the type of thinking it requires establishes a valuable foundation for contracting professionals: “formal education exposes individuals to a wider variety of topics and learning situations than normally possible though experience in a work environment,” “individuals completing degrees prove their ability to see a long-term task through to completion,” and “...it develops an individual’s ability to critically analyze and apply information that is produced by others.” Unlike the civilian panel, four of the six respondents agreed that the formal education should be in business or business related areas. Overall, respondents were in favor of formal education as a requirement for certification, although there was some disagreement on the level of education to require.

The group’s opinion concerning the appropriate level of education to require was not clearly definable at the end of Cycle 1. One respondent recommended: “to enter the career field it should be a BS.” Another would only require a degree “in order to attain top certification.” One panel member specifically noted that enlisted personnel have successfully performed duties in the career field without a degree requirement. Few of the respondents actually spoke of formal education in terms of the professional certification process. The researcher continued the discussion on the subject in Cycle 2a.

*Question 2.* The training requirement of most certification programs is accomplished through the completion of PCE courses. What value, if any, does this type of training

offer beyond that received at the workplace? What specific courses or subject areas should be required?

*Civilian Responses.* All respondents believed that Professional Continuing Education (PCE) classroom training provides value to the workforce. One respondent stated, “PCE classes expose our employees to a range of problems that might not be encountered on a regular basis in the work place.” Another panel member commented on the necessity for employees to stay current, “CPE courses are the best way of getting new ideas and procedures out to the field personnel.” Two respondents found value in the networking opportunities afforded by in-residence training with other workforce members. Overall, the group agreed that PCE plays an important role in professional development and the improvement of the workforce.

While the entire group found value in requiring individuals to attend PCE courses, there was some level of disagreement as to the specific courses to require for certification. Three respondents did not mention specific courses or subject areas to require. Some additional issues were also raised, including the congruity between certification requirements and the training needs of the workforce, “prior to the APDP...virtually 100% of our workforce had completed more than the requisite courses...certification requirements have had little to no impact on the PCE training our workforce receives,” and the experience level that should be required prior to attending PCE, “if [PCE] is received before on-the-job training, the individual may have difficulty in finding the correct frame of reference for the topics being taught.” In response to these areas requiring further discussion, the researcher developed follow up questions administered in Cycle 2b.



*Military Responses.* All respondents found some value in Professional Continuing Education (PCE). As with the civilian panel, the group attributed this finding to the controlled training environment and especially to the value added through establishing a communication network with other members of the Air Force's acquisition workforce: "the best environment for exposure to numerous situations and decisions in a short time is the classroom," "...courses expose an individual to contracting methods and ideas which they may not get exposed to during OJT," and "I think we're tending to computer based training...that's a shame, it eliminates the interaction with classmates, it destroys the sense of community that allows us to call each other and ask questions comfortably." Overall, the group was in favor of PCE as a certification requirement.

Only three of the six panel members indicated specific coursework to require for certification. Two of those three supported the current curriculum required under the APDP certification program, the other listed specific courses. The researcher could not determine an overall group opinion for that portion of the question at the end of Cycle 1. Similar to the responses of the civilian panel, one group member questioned whether certification requirements actually result in a higher level of training through PCE. The discussion regarding PCE was resumed in Cycle 2b.

*Question 3.* What is the value of requiring a minimum amount of contracting experience before granting certification? What is the appropriate way to measure that experience? What specific tasks or areas of experience should be required?

*Civilian Responses.* Five of the six panel members commented on the value of experience. While the remaining member did not speak of the general value of work

experience, the member's response did indicate a preference for an experience requirement in the certification programs. Overall, the group believed that experience is essential for determining an individual's level of professional development. One respondent described the value of experience by saying, "education [and] training are only effective when put into practice," while another panelist drew a distinction between training and experience:

Discussing the problem in an academic setting usually does not involve the emotional problems that are inherent in real world settings...experience gives the professional the ability to recognize those areas where emotional issues might be getting in the way of a needed solution...there is seldom a clear cut text book solution.

The group tied experience to the other certification requirements, claiming that academic and PCE coursework will only benefit the individual and the workforce when the skills presented in those settings are applied to real situations.

Four of the six respondents submitted a particular method of measuring experience before granting certification; two experts agreed with the current method using time in the career field, another recommended specific experience in different duty areas be required. The fourth expert responding to this portion of the question suggested, "tying the PCO/ACO warrant (unlimited variety) as a pre-requisite to certification." This innovative perspective would be addressed to the entire group in a later cycle.

At the conclusion of Cycle 1, it was not possible to determine the overall group opinion of the best measure of experience. The measurement used by certification programs at the time of discussion was the number of years of experience possessed by an applicant. There was some question among the group members as to the effectiveness

of this measurement in ensuring an appropriate level of experience. This issue was readdressed during Cycle 2c.

*Military Responses.* Following the first cycle of discussion, the researcher was able to determine that the entire group valued experience as a component of the certification process. One response captured the essence of the group opinion: “there is no substitute for experience...no amount of education will be sufficient unless you can include practical, hands-on contracting experience.” There was also a strong indication that the group preferred a varied base of experience to specialization in one aspect of acquisition. Four of the six respondents stated that experience should be measured in a more task specific manner than was the case with the current method; one recommended a current method used outside the certification process: “the enlisted OJT skills upgrade is the best way I’ve seen to measure experience...a list of core tasks that any contracting professional would need to know.” Those respondents agreeing with the current measure of number of years experience admitted it was not the optimal measure for the requirement but saw no viable alternative. Overall, the group agreed the current measure of experience was inadequate.

Only two of the respondents listed specific areas of experience to require. In either case, the respondents did not offer a rationale in support of their statements, only examples of their overall view of experience requirements. The researcher developed additional questions regarding the level of experience to require and improvements to the existing certification requirements for experience and continued the discussion during Cycle 2c.

*Question 4.* What is the value added by requiring the successful completion of a comprehensive examination before granting certification?

*Civilian Responses.* Of six respondents, four were in favor of an examination requirement while two were not. Proponents of such a requirement argued that successfully completing an examination requires the individual to “[demonstrate] they have a specified level of mastery of the material,” and “study areas which they would not normally deal with on an everyday basis.” However, the four respondents favoring an examination requirement did not universally agree that the examination should be required at all levels of certification. Dissenting opinions expressed that “we have study programs which tend to teach the test...not optimal,” and “if formal education, training, and experience are required...only consider examinations to substitute or waive formal education.”

With only a 75 percent rate of agreement on the issue, and considering some differences between affirmative responses, the researcher determined there would be benefit from further discussion. The issue was resubmitted to the group during Cycle 2d.

*Military Responses.* The responses to this question varied widely in Cycle 1. The researcher could not determine the group opinion on any level. The panel members were provided the Cycle 1 responses and asked to reevaluate the subject during Cycle 2d.

*Question 5.* What value is provided to the workforce by requiring re-certification?  
Which categories of development should be included in the re-certification requirement?

*Civilian Responses.* All of the panel members agreed that continuing training and education after certification is valuable to the profession. Overall, the group believed individuals should stay current in the practices they employ to perform their duties.

Although the group found value in continued education and training, not all members agreed that a formal reestablishment of an individual's certification should be required. The DoD implemented its Continuous Learning policy, but does not revoke certifications. Some group members believe this policy to be adequate for ensuring continued development, finding no value in re-certification "as long as on-going training is required," or "if a graduated/progressive certification approach is in place." One panelist believed the re-certification requirements was of more value "to the sponsoring association than to the individual." Those seeking to require re-certification would concentrate the requirement around continuing education in areas subject to the most significant change.

*Military Responses.* Four of the six panel members favored re-certification in that it requires the individual to continue their training and education. The agreeing panel members cited that "contracting is changing constantly," and "[the] requirement ensures the employee continues to be exposed to current trends." The expectation that individual's should demonstrate an ongoing commitment to the profession also factored into the preference for re-certification.

Two of the panel members expressed a disagreement with any requirement for re-certification: "absent a comprehensive examination I would not require re-certification," and "seemed like a method to get me to send [more] money and demonstrated no value added." These responses, however, did not directly argue against any of the points made

by the agreeing panel members. The researcher did not dedicate a single iteration to redirecting the arguments concerning re-certification; however, suspecting the two disagreeing members would favor some level of continued education and training, the issue was approached again in Cycle 3. The dissenting opinions were synopsized and offered to a combined military/civilian group at that time.

*Question 6.* What is the value of certifying professionals at progressive levels, as opposed to providing a single certification for all personnel?

*Civilian Responses.* Four of the six panel members found some value in a progressive certification program. They believed that a certification at an appropriate level provides an indicator of the individual's actual abilities. The group commented that progressive levels help ensure only those qualified received the highest certification. Two panel members agreed that progressive levels offer interim incentives to individuals as they strive to achieve the highest level of development.

Since the group agreed that training and education should be ongoing throughout an individual's career, it seemed likely that the group would agree that certification should be an ongoing experience. However, two panel members did not find value in a certification at progressive levels, one stated that lower levels of certification were "more a mark against [the individual]...kind of like a consolation prize...it says, 'not good enough for the first team.'" The researcher determined there to be a sufficient level of disagreement to warrant further discussion. Using progressive levels within a certification program was reevaluated during Cycle 2e.

*Military Responses.* Five of the six panel members stated a desire to certify individuals at progressive levels. The remaining respondent indicated uncertainty as to the definition of “progressive levels” and did not indicate a position during Cycle 1. Those in support of progressive levels indicated that “intermediate goals are important for professional development,” and also that “[graduated certification] is a better indication of an individual’s level of ability, experience, and responsibility,” offering a check and balance system between time in the career field and the expected level of certification.

The level of agreement on this issue was at a point that led the researcher to determine a second iteration dedicated to the question concerning progressive levels was unnecessary. The panel members were given the opportunity to verify their position on progressive levels during Cycles 3 and 4.

*Question 7.* Please review your answers to the questions above. Should there be different requirements for military and government civilian personnel? For DoD and private industry personnel?

*Civilian Responses.* Five of the six panel members stated that military and civilian members of the acquisition workforce should meet the same requirements for certification. Military and civilian members often execute very similar duties and require the same level of professional development. One expert designated an exemption for enlisted members saying, “it will be very difficult to apply all the above criteria to enlisted personnel...few of them could meet all the qualifications.” Although not specifically stated, it is presumed the education requirements would be the most difficult

for enlisted to meet. The group agreed that all acquisition professionals should pursue certification.

Although the group opinion regarding the certification requirements for military and civilian acquisition professionals was near unanimous, some other related issues did arise from the Cycle 1 responses. Two panel members distinguished enlisted contracting professionals involved in contingency operations as needing different or additional certification requirements. Other responses offered differing opinions regarding the similarities between DoD and private industry certification needs. In order to effectively discuss possible differences between the needs of enlisted members and officers, or between defense acquisition and private industry, it would be necessary to solicit responses from experts in those specific areas of the acquisition community. These issues were not anticipated at the outset of the study and the panels established did not meet those profiles. While these issues are valid and merit further discussion, it was determined they were outside the scope of this particular research design. Question 7 was not discussed further in subsequent cycles.

*Military Responses.* Similar to the civilian panel, five of the six group members stated that military and civilian members of the acquisition workforce should meet the same requirements for certification. One respondent made the point that civilians even perform contingency contracting duties, especially when the contingency does not require deployment. The disagreeing panel member believed that “military should be required to attend more contracting schools, in-residence, which deal with contracting in deployed locations.”



Subsequent to the first cycle, it was determined that further discussion concerning Question 7 was outside the scope of this particular study. The military panel touched on some of the same issues presented by the civilian group. A recommendation for additional research will be offered in Chapter V.

*Cross-case Comparison.* At the conclusion of the first cycle, the discussions within the separate groups had taken on similar characteristics. Overall, the panel members did not limit their comments to those applicable to their particular employment status; civilians often spoke of the functions that military members perform and vice-versa. Both groups made some mention of the enlisted forces. Where unique ideas were offered within a group, a similar response was noted from a member of the other group. For example, both civilian and military panel members commented that re-certification was of more value to the certifying association than to the workforce. One isolated difference was that only the military panel commented on the difference between CBT and in-residence training. However, this concept was introduced by a single panel member and could not be determined to represent an overall difference in view between the military and civilian panels. Although specific comments varied between groups, there was like variance in the comments within each group. At the end of Cycle 1, the researcher did not discern any divergence in the discussion between groups that could be attributed as a function of group composition.

Each group validated the assumption that professional certification programs served strategic purposes. Although the panelists were not provided with a list of Pavalko's qualities attributable to professions, the experts repeatedly expressed the value of

certification elements in these terms. The panelists found that individuals should possess a significant level of specialized knowledge to claim expertise in the career field; the experts sought certification requirements that would ensure an individual's mastery of contracting processes. Several panel members expressed a desire for more stringent experience requirements to ensure adequate indoctrination to the profession prior to certifying an individual as a professional. The group members also mentioned the social responsibility of defense acquisition personnel expending public funds and the need for qualified individuals to ensure that responsibility is properly carried out. A number of experts cited the importance of networking, supporting that contracting is a significant subculture within the acquisition community. Overall, the groups did not suggest that professional certification was necessary only to meet the requirements of DAWIA, the experts found that certification benefits the workforce and profession as a whole in addition to the individual benefits received by certificants.

### *Delphi Cycle 2*

The second cycle of discussion was comprised of five Delphi iterations. Each iteration addressed an area determined to require further discussion in Cycle 1. Again, discussions were conducted separately between the two expert panels. Unlike the first cycle, the questions submitted to the two panels were not necessarily identical; questions were tailored to the panels' remarks during Cycle 1.

*Civilian Responses for Cycle 2a.* The response rate for this iteration was 100 percent. The participants were asked four questions concerning professional certification

requirements for formal education. The questionnaire is presented in full text in Appendix E; a synopsis of specific responses is provided in Appendix G.

*Question 1.* Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field?

Three of the six panel members did not believe an undergraduate degree should be required to enter the career field. Although the respondents did not offer support for this position, each went on to say that a degree should be required before any individual is allowed to advance to the grade of GS-11 or above. The remaining three panel members were in favor of requiring a degree for entrance in the career field. These respondents stated, “we have been on a long path to professionalize the contracting career field...the degree requirement is one method to take us farther on that journey,” and “a degree is necessary just to establish a level playing field [between government personnel and their private sector counterparts].” The experts also expressed that a degree demonstrates a level of commitment and work ethic and increases the credibility of the career field within the acquisition community. One respondent referred to the National Defense Authorization Act for 2001 that made changes to the qualification requirements for contracting personnel. Public Law 106-398 (Section 808), amended Section 1724 of title 10, United States Code to require civilian employees and military members of similar occupational specialties to possess a degree, with a major or concentration in business, before they are granted entry into the career field, or before they move to a new position if they are already in the career field. This response played a significant role in guiding the discussion during Cycle 3. Overall, the expert panel valued formal education and agreed it should be a requirement, at some level, for all contracting professionals.

*Question 2.* Considering APDP and other contracting professional certifications (CPCM, CACM...), why is it important for the individual to possess an undergraduate degree before being granted professional certification?

Each respondent made reference to the term “professional” or “professionalism” in answering the question. The panel members were in complete agreement that a professional certification should require individuals to obtain degrees. The experts stated that a certification program with rigorous requirements provides more value and credibility to those who are certified. Several of the respondents made strong statements challenging any professional certification not requiring the completion of a degree program. One respondent went as far to suggest that the APDP certifications are not truly professional certifications as are those offered by other associations that require degrees:

I think it is important to differentiate between the APDP “box top” certifications (just send in your box tops in the form of completed courses and you are certified for life) and the NCMA professional certifications...An undergraduate degree is a reasonable prerequisite for certification in a quasi-professional field such as contracting.

*Question 3.* Under what circumstances would a formal education requirement be waived?

The panel offered very limited exceptions to requiring formal education prior to certification. Two respondents stated they would waive the requirement for individuals possessing at least 10 years of experience; one required managerial experience, the other required the 10 years be completed prior to October 1991 (a current APDP waiver). Another panel member stated an exemption for enlisted members in contracting. Enlisted personnel are not required to receive a degree before entering the service and are vital to the Air Force’s contingency contracting mission. A fourth panel member found reason to

exempt those first entering the program, but qualified the waiver by requiring those individuals to be actively pursuing an undergraduate degree. Two panel members refused any waiver. Overall, the group supported their preference for formal education requirements by placing extremely stringent restrictions on waivers.

*Question 4.* Does your answer to Question 1 apply equally to officer, enlisted, and civilian personnel? Why or why not?

All six-panel members agreed that formal education requirements should be the same for active duty officers and civilians in the contracting career field. The group believed that professional certifications should be a consistent indicator of professional development for all certificate holders, regardless of the particular position they occupy. Three of the panel members went on to suggest that enlisted members should also be held to the same requirements for certification. Although enlisted members are not required to receive formal education as a condition of employment, these experts recommended they be expected to fulfill the same certification requirements as officers and civilians: “I envision a merit based career field wherein individuals are judged by their knowledge and accomplishments, not by the method they entered the workforce,” “the level of certification demonstrates a level of professional development, not position held,” and “...the Air Force is going to have to change the thinking on enlisted Contingency Contracting Officers...” The remaining panel members did allow enlisted a reprieve for formal education requirements, but did not specifically state whether the requirements for career field entrance or certification, or both, should be relaxed for enlisted troops. Overall, the panel was of the opinion that formal education requirements are important to the certification process and should be applied consistently to all contracting members,

with a possible exception for enlisted members, in order to maintain the prestige and credibility of the certification.

*Military Responses for Cycle 2a.* The response rate for this iteration was 84 percent (5 of 6 panel members responded). The participants were asked four questions concerning professional certification requirements for formal education. The fourth question differed from that asked of the civilian panel. The questionnaire is presented in full text in Appendix F; a synopsis of specific responses is provided in Appendix G.

*Question 1.* Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field?

Two of the five respondents did not call for an undergraduate degree as an absolute requirement for entrance. One of those panel members did recommend the degree requirement as a significant factor for determining advancement within the career field. The other expert stated that the Air Force would find it “very difficult to meet the mission currently fulfilled by the enlisted force” if a degree were required of those individuals. This panel member also believed the Air Force’s ability to provide contracting support to operational wings could be hampered if civilian employees at all levels were required to obtain degrees. The remaining three respondents believed degrees should be required for entrance; however, one of these experts agreed with the exception for enlisted members. Those supporting a degree entrance requirement stated that the role of the contracting specialist is becoming that of a “business advisor” and that formal education in that area was imperative. One respondent also pointed to the requirements in other professions such as medical, legal, and accounting, “Why would we ever consider anything less for

our profession?” suggesting that a degree entrance requirement is necessary for the career field to be considered a true profession. Overall, no panel member disputed the importance of formal education and most supported requiring an undergraduate degree for entrance into the career field. The only exceptions to this opinion were expressed as a concern for mission continuity rather than in dispute of the importance of formal education.

*Question 2.* Why is it important for the individual to possess an undergraduate degree before being granted professional certification?

Like the civilian panel, the military contracting experts believed that certification should be reserved for those demonstrating superior capability. The panel members referred to an undergraduate degree requirement as essential to a certification program seeking to be designated as a professional certification: “a certification should be built on the degree...should show a person has gone through a stringent program to obtain certification.” One panel member did offer an exception for the Air Force’s APDP certification. This expert would not require Level I certificants to complete an undergraduate degree but suggested a bachelor’s degree be required for Level II and a graduate degree for Level III, providing the anticipated effects on the workforce were favorable. Overall, the panel agreed that formal education should be required for certification; all but one respondent believed that requirement should insist on the completion of an undergraduate degree.

*Question 3.* Under what circumstances would a formal education requirement be waived?

All respondents expressed an exception to the degree requirement; however, the panel did not agree on the circumstances for such an exemption. Two experts referred to the enlisted contracting forces as eligible for a waiver for the same reasons they cited in Questions 1 and 2. Another pair of experts agreed that the requirement might be waived if the individual had extensive experience in contracting; however, neither panel member expressed this exception adamantly, one stated the waiver should only be for “a period long enough to give the individual time to finish their formal education.” The remaining panel member did not require a degree for entrance or certification and did not comment on the waiverability of a lesser education requirement. Overall, the expert panel recommended only limited exceptions to formal education requirements.

*Question 4.* What value does formal education in a business related discipline provide to the workforce that cannot be achieved through other means (e.g., formal education in other disciplines, experience or training)?

Three of the five respondents believed that a business degree offered value beyond that of other disciplines. These experts stated that contracting professionals must understand business operations to effectively communicate, negotiate, and partner with contractors, and that a business degree also established leadership and management skills. One panel member conceded that other disciplines can render specific business knowledge effectively, but held that a business degree gives the individual “a breadth of knowledge in all the different disciplines [logistics, acquisition, manufacturing, accounting, etc].” Two of the other experts did not find the need for a complete degree in



business; one stated that 24 credit hours of business coursework could meet the objective; the other believed any accredited program would establish the academic foundation needed. One of the previously mentioned panel members disputed this assertion stating that certain undergraduate programs (psychology and sociology) had lower standards than a good business degree, “these degrees are a joke...for football players to major in.” The remaining panel member did not find a business degree more valuable than other disciplines. Overall, the group agreed certain knowledge and skills are gained through formal education and most panel members believed a significant portion of this formal education should be in business-related coursework.

*Civilian Responses for Cycle 2b.* The response rate for this iteration was 84 percent (5 of 6 panel members responded). The participants were asked four questions concerning professional continuing education training requirements for certification. The researcher provided the panel a synopsis of the comments submitted during Cycle 1. The first question was designed to verify the apparent group agreement following the first cycle; the remaining three questions were developed based on issues raised by the panel during the first cycle. The questionnaire is presented in full text in Appendix H; a synopsis of specific responses is provided in Appendix J.

*Question 1.* To what extent do you agree with requiring the courses listed above [Contract Law, Contract Administration, Pricing, Negotiation Techniques, Market Research, and Quantitative Methods]?

Three of the five respondents agreed with including all of the courses listed in a contracting certification program; one panel member did not expressly agree nor disagree

with a particular course. The remaining expert stated that a separate Market Research course should not be required, but that current course curriculums should increase their emphasis in that area. Overall, the panel agreed with the courses recommended during Cycle 1; the experts were again given the opportunity to suggest changes to current course offerings in Cycle 4.

*Question 2.* Do the current certification programs satisfy these requirements?

The panel did not believe the current certification requirements satisfied the training needs of the workforce; one expert responded affirmatively but also agreed with requiring Quantitative Methods, a course not present in current requirements. The group believed the workforce would benefit from broader training accomplished through additional courses such as Quantitative Methods and Cost Accounting, or by initiating a requirement for an elective course from a field other than contracting. One expert added that the current curriculum does not sufficiently develop essential interpersonal and communication skills: “negotiating skills, meeting skills, personal interaction, and organizational behavior are very important...should be mandatory for anyone at the GS-12 level and above.” As previously stated, one panel member thought market research subject material should be enhanced throughout the curriculum. Overall, the panel accepted that current requirements meet the most basic needs of the workforce, but recommended a stronger curriculum be developed.

*Question 3.* To what extent has establishing certification programs emphasized PCE for the workforce? Is this favorable?

The group agreed that the development of certification programs (namely, the mandatory APDP certifications) have had a favorable effect on the emphasis of PCE for

the workforce. One panel member stated, “APDP makes for a much more orderly acquisition of contracting knowledge than was previously possible,” another added, “it forced management to insure everyone in the field received training...it has been very favorable.” However, two panelists did comment that the overall effect, while favorable, has been less than significant. One expert cited the lack of a re-certification requirement in APDP failed to motivate continued training beyond the minimum requirements. Overall, the panel concluded that certification programs do emphasize PCE for the workforce and that emphasis generates favorable results, but that the extent that the APDP certification program strengthens the training of the workforce could stand to be increased.

*Question 4.* What experience should be required before attending PCE?

The experts agreed that some exposure to the work environment should be required before individuals begin attending PCE training. The precise amount of experience to require varied between the members; panel members advised as few as three months and as many as eight months experience before one attends their first PCE course. Current certification requirements insist on a minimum level of experience before certification but do not necessarily require a specific amount of experience before completing the PCE requirements for certification. Theoretically, an individual could complete all training requirements without ever performing contracting duties and then gain certification after the minimum required time in the career field; of course, a portion of the experience requirement would be achieved during the time spent attending training, rather than gaining actual work experience. Overall, the group believed it was unadvisable to expedite or compress the classroom-training schedule for an individual so that they were

certified with minimum experience. This practice may result in unqualified certificants and detract from the credibility of the certification.

*Military Responses for Cycle 2b.* The response rate for this iteration was 67 percent (4 of 6 panel members responded). The participants were asked four questions concerning professional continuing education training requirements for certification. The researcher provided the panel a synopsis of the comments submitted during Cycle 1. The first question was designed to verify the apparent group agreement following the first cycle; the remaining three questions were developed based on issues raised by the panel during the first cycle. Based on the responses to Cycle 1 questions, Questions 3 and 4 asked of the military panel differed from those submitted to the civilian experts. The questionnaire is presented in full text in Appendix I; a synopsis of specific responses is provided in Appendix J.

*Question 1.* To what extent do you agree with requiring the courses listed above [Source Selection/Best Value, Contract Management, Contract Law, Services, Construction, Systems and Contingency Contracting, Pricing, and Electronic Contracting]?

The experts agreed with all of the courses listed. The panel believed that certification should be a demanding process and that only those with a high level of knowledge and training should be certified. One panelist stated that these topics envelop the actual situations trainees will face in the workplace and that discussion and instruction of these issues in a classroom setting “prepares the student for hundreds of real world events that they would not experience otherwise.” The panel agreed with

specialized training in electronic systems, especially with the impending operationalization of the Standard Procurement System (SPS). One panel member also recommended coursework in commercial contracting.

*Question 2.* Do the current certification programs satisfy these requirements?

Overall, the group was not satisfied with current certification requirements. Two panelists stated that the curriculum should be more rigorous in order to provide adequate training in all the required areas; these experts believed the current offerings to be “square fillers”. One member remarked that “we had a better trained workforce before the certification programs, our problem was that it wasn’t evenly spread”; requiring certification has guaranteed widespread training but that the level of training offered has diminished to accommodate the demand. Another panelist did not think the certification process guaranteed relevant training; individuals will be sent to required courses for certification ahead of other courses that may be more immediately applicable to their duties.

*Question 3.* How is the workforce benefiting from the level of difficulty in current course offerings?

The respondents verified their assertion that the current coursework is too facile and that the benefit of certification is subsequently diminished. In the experience of these experts, all attendees pass required courses with very little effort, one stated, “they all pass if they show up and breathe.” One respondent remarked that there is an unfavorable career connotation for those who leave the field for an extended period to fill instructor positions; therefore, it is “tough to get quality folks teaching our contracting professionals.” Course material is standardized at the AETC level and instructors are not

given the freedom to tailor the level of difficulty to the abilities of the students. Overall, the group found benefit in PCE training for the workforce but did not believe the potential benefit is realized through the mandatory APDP certification process.

*Question 4.* Why should certification programs require in-residence PCE, rather than giving credit for on-line or software instruction?

The respondents unanimously favored in-residence training to that received on-line. One panel member stated “basic courses could be taken on-line but that higher-level courses should be case study oriented” and require critical thinking and free flowing discussion. The remaining panelists insisted that classroom interaction is invaluable to the learning process. The opportunity for students to “learn from each other” and continue communication when they return to work was seen as a priority in the training process. The group believed that in-residence interaction is the source of much of the benefit from training, simply completing reading and examinations are only successful in meeting minimum requirements. One of these experts recommended requiring Computer Based Training (CBT) as a prerequisite to in-residence attendance in order to “increase the quality of the interaction.” Based on the answers to Questions 3 and 4, it was apparent the group considers the current mandatory certification program places greater importance on the completion of training than the quality of training.

*Civilian Responses to Cycle 2c.* The response for this iteration was 67 percent (4 of 6 panel members responded). The expert panel was provided a synopsis of Cycle 1 responses as well as the current APDP and CPCM certification requirements for experience. The researcher submitted two additional questions concerning requirements

for experience in contracting professional certifications. The questionnaire is presented in full text in Appendix K; a synopsis of specific responses is provided in Appendix M.

*Question 1.* Should the experience requirements insist on experience in more than one area of contracting?

Panel members responding to this iteration of discussion maintained the Cycle 1 conclusion that a broad base of experience is desirable. However, none of the experts believed that mandating multiple areas of experience was necessary for certification. The panelists commented that an individual might not have the authority to determine which areas they work in, especially early on in their career. One expert stated that the contracting officer of the future might be required to have both contracting and program management experience, recommending, “if so, then experience in the corollary field would be necessary.” Overall, the group considered a contracting certification to be primarily concerned with contracting experience. The panel remained in favor of varied contracting experience but would not set a firm requirement for specific areas of contracting.

*Question 2.* What improvements can be made to these requirements?

Two respondents stated that the current experience requirements were too lenient for a professional certification. Both of these experts sought to extend the number of years experience to qualify for certification. One panel member recommended adding an examination requirement, believing it would require enough time and preparation for the individual to gain enough experience. The other respondent stated an experience requirement of at least four years, “the amount of time devoted to training our advanced

Copper Caps.” One of the remaining panel members would improve the current requirements by reevaluating the role of future contracting officers and requiring applicants to meet similar experience requirements; the other recommended adding diversity as a stated desire but not a firm requirement. Overall, the panel members believed some changes were necessary to current experience requirements for certification. The experts were given the opportunity to suggest specific changes to certification requirements in Cycle 4.

*Military Responses for Cycle 2c.* The response rate for this iteration was 50 percent (3 of 6 panel members responded). As with the civilian panel, the military experts were asked two additional questions concerning experience requirements for professional certification in contracting. The questionnaire is presented in full text in Appendix L; a synopsis of specific responses is provided in Appendix M.

*Question 1.* The APDP certification program has the following experience requirements: 1 year in contracting (Level I), 2 years in contracting (Level II), 4 years in contracting (Level III). The NCMA CPCM requires 2 years experience in: procurement, legal, MIS/IT, inventory mgt, project mgt, production, R&D, marketing, QA, finance, or business mgt. Do these requirements support the group consensus that depth of experience is important?

One respondent stated the current requirements did encourage depth of experience and were acceptable. Another panel member remarked that requiring an amount of time in the career field did not ensure broad experience. This same expert commented that it is important to recognize that different positions in contracting require different training,



but that current certification requirements are the same for all individuals. This panelist adopted another member's prior suggestion of developing OJT records with specific experience requirements for the different types of positions. The third respondent was also dissatisfied with the current requirements stating that a certain length of time in the career field does not ensure an individual is prepared for the duties of a specific position: "I'm looking for someone to get the job done and in some cases the person with 2-years is the answer...I don't want some artificial certification requirement to handicap my ability to place people into jobs that I know they will excel in." With such a low response rate it was impossible to ascertain an overall group opinion on this matter. The subject was re-approached in both of the subsequent cycles.

*Question 2.* What improvements can be made to these requirements?

All respondents recommended requiring experience in specific areas, offering alternative tasks to meet the same objective in the event an individual is stationed at an office that did not offer the opportunity for some specific experience. One panel member added that the current requirements were too lenient, that four years was not enough time to gain the experience that should be required of an individual certified as Level III through APDP. The panel was again given the opportunity to suggest specific changes to certification requirements in Cycle 4.

*Civilian Responses for Cycle 2d.* The response rate for this iteration was 84 percent (5 of 6 panel members responded). The panel was asked to comment again regarding the value of requiring certification applicants to complete a comprehensive examination. The

questionnaire is presented in full text in Appendix N; a synopsis of specific responses is provided in Appendix P.

*Question.* In what way does requiring the completion of an examination strengthen, or fail to strengthen, a professional certification for the contracting workforce?

The panel members tended to prefer certification programs requiring the successful completion of an examination before an applicant is certified. Four of the five respondents stated that a comprehensive examination validates the technical competence of the individual, requiring them to not only attend class, but to process and apply the principles and procedures they were taught. An examination also lends credibility to the certification; an individual is not assured certification in a matter of time, they must put forth a concerted effort to improve their abilities and knowledge to pass the test. Only one expert disagreed, “the process already requires a combination of education, training, and experience...if there is any desire to use examinations, then do it appropriately at the specific training course level...”

*Military Responses for Cycle 2d.* The response rate for this iteration was 67 percent (4 of 6 panel members responded). The military panel was asked the same question presented to the civilian experts. The questionnaire is presented in full text in Appendix O; a synopsis of specific responses is provided in Appendix P.

*Question.* In what way does requiring the completion of an examination strengthen, or fail to strengthen, a professional certification for the contracting workforce?

Three of the four respondents remained in favor of a comprehensive examination requirement for certification; of the three panelists against an examination requirement in

Cycle 1, one responded to this cycle and retained that position. Support for the examination referred to the “intense preparation” required, guaranteeing the applicant actually learn the craft and not just occupy a position in the career field: “I might have spent 4 years in contracting and taken 6 courses, but that doesn’t mean I retained the information.” Also, those in favor of an exam requirement believed it identified “those who are dedicated to the career field...it enhances the contracting community’s reputation for professionalism,” and “it causes the individual to spend a significant amount of time thinking about what it is they are involved in; to look at relationships between different functional specialties. In direct contrast, the remaining expert disputed that dedication is proven through testing:

Reading the above comments, what strikes seems to be the feeling of shared pain. By making an examination difficult for a level of certification, it shows commitment to the profession to pass. I don’t buy that premise. From my perspective, my professionalism and growth in my career field is based upon my training opportunities and varied experience; not studying some “school answers” to pass a test which bears little semblance to what I may be working on or exposed too.

This panel member believed that completing the required training an experience is sufficient for professional development. Of course, the panel stated in previous cycles that training and experience requirements as currently written are insufficient for a superior certification program.

*Cross-case Comparison.* As was the case at the conclusion of the first cycle, the researcher benefited from maintaining separate groups by having the opportunity to approach several issues raised in Cycle 1 without placing an extreme burden on a single panel. The second cycle served to clarify the groups’ positions concerning the initial

areas of discussion. However, there were again no distinct points at which one panel diverged as a group from the other. Where a majority opinion was evident, that opinion was often the majority opinion for both groups. Additionally, Cycle 2 suffered from a lapse in the response rate on the part of both groups. Respondents varied between sub-cycles; since the individual participation within each group was subject to variance, it became that much more difficult to draw any conclusions regarding the variance, limited though it was, between groups. Establishing a consistent pattern of behavior for each group was necessary before the researcher could claim a difference, or lack thereof, in the patterns. Based on these circumstances, any future assessment of divergence would be seemingly unreliable; the groups had not appeared significantly divergent in the first two cycles. Therefore, in an effort to receive a sufficient number of responses on each issue so as to maintain the depth of analysis, the researcher decided to combine the participants to form a single group for the latter cycles. The common issues between the groups were discussed further and unique comments, previously reserved within the groups, were provided to foster comment from each demographic represented in the combined group.

### *Delphi Cycle 3*

Having determined the civilian and military expert panels had not been significantly divergent in their responses during the first two cycles, the researcher combined the groups for the two final cycles of discussion. Of a total combined panel size of 12 experts, the response rate for Cycle 3 was 75 percent (5 civilian and 4 military respondents). The experts were provided a questionnaire synthesizing the conversation on all previously discussed areas of professional certification. Thirteen additional questions

were submitted in an effort to verify an overall group opinion on each subject. The questionnaire is presented in full text in Appendix Q; a synopsis of specific responses is provided in Appendix R.

*Question 1.* The first question addressed formal education requirements. The panel was provided a copy of a recent amendment to Section 1724 of title 10, United States Code, which required civilian employees and military members of similar occupational specialties in contracting to possess an undergraduate degree, with a major or concentration in business, before they are granted entry into the career field or before they move to another position, for those who were already in the career field. The researcher recommended the group complete the discussion on the subject of formal education; certification requirements will have to be at least as restrictive as those for entrance into the career field.

The experts had agreed to this point that formal education was valuable, the only area of debate centered on whether to require certificants to complete a formal degree program. The issue seemed to have been settled by the recent legislation. The panel members were offered the opportunity to submit any final comments on the subject. Three of the active duty respondents voiced stern opposition to the change stating it will be difficult to meet personnel requirements, especially among enlisted positions. One was particularly upset stating, “the staff officer at AQ that let the language in the new Public Law slip through without bringing it to the attention of AQC [should] be shot.” Another military panel member supported the new requirement in part, but disagreed with imposing the restriction universally: “The one exception I would make would be for

military enlisted. But in their case they will be specifically designated to deploy and should focus their training to meet that requirement. None of the civilian members of the panel offered additional comments.

*Question 2.* How many levels (1, 2, 3, or more) should be included in a professional certification program for contracting personnel? Please provide support for your answer.

Overall, the panel preferred a graduated certification approach consisting of three levels; however, that opinion was not unanimous. Three panelists believed that only one level of certification should be offered. One expert changed position on the subject from earlier cycles, while several respondents remaining with their initial position supported their opinion with comments from other panelists. Both of these findings validated the Delphi process; had the researcher used another interview method and not provided controlled feedback from earlier cycles, it is doubtful any panelists would be convinced to change their minds as a result of considering the issues from multiple points of view.

*Questions 3 and 4.* Should an individual be required to qualify for a warrant before being granted certification? At what level (for those supporting multiple-level certifications)? If not, should an individual be required to possess a certification before being granted a warrant? At what level (for those supporting multiple-level certifications)?

The group opinion in this subject was clearly definable; eight respondents did not agree with requiring applicants for certification to be qualified for a contracting officer warrant. Although the requirements for receiving a warrant are similar to those of certification at Level II, the warrant may require additional courses or qualifications

based on the particular position the contracting officer will occupy. One of these eight experts did not express that a warrant should be a strict requirement for certification but should play a role in the certification process; the specific role intended was not offered. This issue came to light based on input from a single panelist during an earlier cycle. While this expert retained the opinion that a warrant should be required for certification, the other panelists were not convinced to support that position.

Six of eight panelists not requiring a warrant for certification did indicate support for the opposite. Several of these respondents suggested individuals be certified at APDP Level II prior to being considered for a warrant; a few experts would allow a warrant below the simplified acquisition threshold for individuals certified at Level I. Two of the panel members sought to keep the two issues completely separate and did not require one before the other in either case.

*Question 5.* Regarding the number of certification levels you selected in Question 2, what PCE courses or subject areas should be required at each level?

The format of this question allowed for too much variety in answer format for the researcher to conduct a meaningful analysis; some respondents provided specific course numbers, others only spoke of general subject areas. Three experts responded that the current requirements for APDP certification are satisfactory. Three other panel members recommended coursework not mentioned in previous cycles; two suggested a program management course be added to the curriculum, one saw a need for some basic economics instruction. One expert stated that the certification should be based on formal education, experience, and a comprehensive examination, and did not call for any

mandatory PCE courses. The format of Cycle 4 was more conducive to determining an overall group position.

*Question 6.* Should all personnel be required to attend the same courses, or should a variety be offered for each subject area?

The panel member not requiring PCE courses abstained from commenting on this question. Two of the experts answered that all individuals should attend the same courses to ensure everyone meets the same requirements for certification. The remaining eight panelists adopted one expert's suggestion from an earlier cycle; that some mandatory courses should be established but electives, possibly in other fields of study, should be offered to enhance the breadth of training provided. These experts stated that many of the mandatory requirements are not applicable to every acquisition position and individuals should be afforded the opportunity to receive relevant training in their pursuit of certification.

*Question 7.* What format of PCE (CBT, In-Residence, VTC, ...) should be required at each level?

The panel member not requiring PCE abstained once again; however, this expert did mention that PCE should be encouraged even if not required. All of the remaining experts held that at least some courses should be attended in-residence. The group seemed in agreement that the interaction between students provided significant value to the process. Four panel members allowed for alternative mediums for some, but not all course requirements; the other four advised in-residence training for all courses,



supporting their positions with comments including, “the learning from one another and the networking...is just as important as the content of the course taught,” and “the learning comes from the interaction of the people; the CBT stuff isn’t really working.”

*Questions 8 and 9.* Using the number of levels of certification you selected in Question 2, what specific experience requirements do you propose at each level? How would you measure this experience to ensure the appropriate level of quality and relevance of the experience?

Only two panel members recommended maintaining the current practice of measuring experience in terms of years; two other experts would use years of experience to state the requirement, but add a qualification that the relevance of the experience would have to be documented. Two panel members recommending only one level of certification thought experience of at least seven years should be required. Other experts offered different expectations at different levels of certification. Overall, the group seemed to be interested in higher requirements for experience than those currently required; Cycle 4 was a better determinant of that point. The majority of the panel believed that specific tasks or duties should be documented before granting certification.

*Question 10.* Which, if any, of the above requirements for certification would you be willing to waive? Under what circumstances?

Two experts stated they would not waive any requirements for certification. The other panel members offered few waivers and indicated those should only be given on a case-by-case basis. The panelists suggested that experience in a related field might be

considered to meet the experience requirements, that a particular certification level requirement for a certain position might be waived while an otherwise qualified person sits in that position, that certain classes might be passed over if an individual's duties do not require that training, and that the degree requirement could be waived for those with extensive experience. One panelist proposed that years of experience could be relaxed if an individual demonstrated truly remarkable ability. The only class waiver recommended was that of exempting the enlisted troops from a degree requirement.

*Question 11.* At what level would you require individuals to pass a comprehensive examination before granting certification?

The responses to this question varied widely. Four respondents would not require an examination for APDP certification but did not recommend NCMA revise its policy on an examination. Of those suggesting only one level of certification, one recommended an examination requirement while the other did not specify a preference. One expert recommended an examination be added to the requirements for APDP Level III certification. One panel member would require individuals to complete an appropriate examination at every level of APDP certification. The remaining expert did not indicate a specific level at which to require an examination, but did allude to a preference for an exam requirement at some point in the process.

*Question 12.* Should an individual be allowed to retain their certification status if they do not meet the requirements of the Continuous Learning policy?

Seven of the nine respondents insisted that individuals maintain their currency in training following certification and stated they would revoke certification until the requirements of the Continuous Learning policy were met. Two of these panel members stated that the acquisition career field changed too frequently to consider an individual qualified for certification if they did not maintain current training. The two opponents to this opinion were reluctant to penalize individuals who could not attend training as a result of funding restrictions at their organizations. One respondent also indicated that as an individual achieves higher rank and responsibility, the need for technical expertise is replaced by a requirement for managerial and leadership skills not taught through PCE courses.

*Question 13.* What other requirements should be met in order for an individual to maintain their certification status?

Only one expert recommended additional requirements for individuals to retain their certification – periodic revaluation of experience and the relevancy of that experience. The remaining eight panel members agreed that no other requirements should be necessary. One of these experts did not agree with revoking certification for failure to meet continuous learning requirements; effectively, this panel member believed that once an individual is certified he or she should retain that certification indefinitely.

#### *Delphi Cycle 4*

The final cycle of discussion was devised to give the experts the opportunity to make final determinations regarding specific certification requirements applying to the APDP

and NCMA CPCM certification programs. The panelists were provided the current requirements of both programs and asked to recommend changes based on the discussion conducted throughout the earlier Delphi cycles. The response rate for the combined active duty and civilian panel was 84 percent (10 of 12 panel members responded). The questionnaire is provided in full text in Appendix S; tables summarizing the recommended changes are provided in Appendix T.

There were some changes recommended to each element of the APDP certification process. One respondent changed position on the number of levels to require, agreeing with the majority of the group on a three-level graduated approach to certification. There were noticeably fewer changes suggested for the CPCM certification. Overall, the group believed the most significant need for change was within the upper levels of the APDP process. The panelists recommended more stringent experience requirements, more difficult course curriculums, a higher level of education, and some form of re-certification requirement. A number of panelists stated no change was necessary to several elements of the certification; however, discussion in the earlier cycles revealed that the group favored changes within training course curriculums and the manner in which experience is measured, even if the required courses or length of experience remain unchanged.

### *Summary*

This chapter described the qualitative data created through the Delphi discussion conducted throughout this study. Each question asked of the expert panels was presented

along with a description of the answers provided by the respondents. This chapter also discussed the preliminary conclusions of the researcher as the discussion process progressed. The next chapter will discuss the overall conclusions drawn from the research.

## V. Conclusions and Recommendations

### *Overview*

This chapter concludes the research report by addressing and answering the research questions presented in Chapter I, making recommendations based upon those answers, and finally, discussing the limitations of this study and suggesting future research.

### *Conclusions*

*Research Question 1.* What are the strategic goals for certifying acquisition professionals?

The relevant literature reviewed in Chapter II names several purposes for professional certification. These objectives serve a variety of stakeholders including the profession, the certifying association, the individual professional, and the clientele served by the profession. In implementing a professional certification program, the value provided to each of these concerns can be neither over nor under emphasized. Over the past decade, the defense acquisition community has sustained a myriad of regulatory changes in the interest of improving the effectiveness and efficiency with which the DoD executes its acquisition processes. The strategic goals behind the Defense Acquisition Workforce Improvement Act (DAWIA) and the establishment of the Defense Acquisition University (DAU) were rooted in the process reform mandated by regulation and expected by the American people.

While professional certifications initially serve individuals, providing them with the knowledge and expertise that will establish their credentials and enable their career progression, there are also benefits to the organization and profession at the strategic level. As each defense acquisition professional becomes more qualified and able to execute their duties more effectively, the defense acquisition profession becomes better equipped to meet the standard of excellence expected. The intention of professional certification within the DoD is to ensure each individual is adequately trained, educated, and experienced to carry out his or her duties, and to ensure each position is filled with the individual qualified to sit in that position, thereby facilitating the highest level of competency throughout the workforce resulting in a collective efficiency to meet the challenges of improvement imposed on the profession. Expressing these goals in a hierarchical manner, the overarching strategic objective behind certification is improving acquisition processes for the DoD. This primary initiative is, in part, achieved through the professionalization of the workforce, the specific intent of professional certification.

*Research Question 2.* To what extent do Air Force acquisition experts believe current certification requirements meet or fail to meet those goals?

The expert participants in this study were all a part of the acquisition workforce throughout and prior to the past decade. These experts witnessed the implementation of the Air Force's mandatory certification program as well as the increased encouragement to seek previously established, privately administered, professional certifications for the contracting career field. The experts found value in every element of professional certification programs. Although some valued particular qualifications over others, all

agreed that formal education, professional continuing education, and experience benefited the workforce and the profession in general. While the experts agree on the potential value added to the profession through certification, there is some doubt as to whether the APDP certification process currently realizes that full potential.

The experts were asked questions concerning both the APDP and CPCM certification programs; however, the discussion continuously focused on the perceived inadequacies of the APDP program while fewer concerns were voiced regarding the CPCM. The panel believed the APDP program to be a certification eventually granted to all defense acquisition personnel over time. Initially, this does not seem problematic, one would think it optimal that all individuals in the field would reach a level of qualification to denote certification; however, the experts suggested that the APDP certification was so easily obtained, its credibility as an indicator of qualification was becoming diluted. Many of the experts believed a professional certification should be reserved for those demonstrating the highest level of professional development and dedication, and that the APDP certification did not require sufficient effort to assure certificants were any more qualified than non-certificants. Based on the opinion of the expert participants in this study, it is apparent that the framework of the APDP certification program is appropriate to meet the strategic goals of improving the acquisition workforce and defense acquisition processes overall, but that the current requirements within that framework fall short of a meaningful contribution to the pursuit of those same goals.



### *Recommendations*

*Certified Professional Contracts Manager (CPCM) Program.* The experts involved in this study overwhelmingly supported the National Contract Management Association's CPCM certification requirements as written. The only area of the certification that received even moderate scrutiny was the requirement for two years of procurement related experience. Half of the experts on the panel suggested the length of experience should be at least five years. Two of the more controversial subjects, the examination and re-certification requirements, garnered strong support from the panel as currently written. Therefore, based on the outcome of this study, the only recommendation to NCMA is that it reevaluate the required experience level and consider a more stringent stipulation for this element of the certification application.

*Acquisition Professional Development Program.* Based on the suggestions of the expert discussion panels, it is recommended that changes be considered in the following areas of the current requirements:

*Formal Education.* The experts placed considerable value on formal education. Many of the panel members reiterated that experience and professional training couldn't produce the same benefits as accredited degree programs. Training and experience develop an individual's ability to perform specific tasks, but do not establish the foundation for critical thinking essential to learning at both the macro and micro level. Over half the experts participating in this study recommended an undergraduate degree as a requirement, not subject to waiver, at levels II and III. Several panel members would require a Master's degree prior to granting Level III certification. Should the recent

legislative changes to 10 USC, Section 1724 continue in full force and effect, all individuals in the career field will possess at least a Bachelor's degree.

While, it is recommended the APDP certification requirements follow suit in requiring a high level of formal education from those individuals considered worthy of receiving a certificate intended to denote professionalism, there is an apparent conflict between the desire for professionalism and Air Force mission requirements. If an undergraduate degree is required to ensure professionalism, and that professionalism is to be mandated for continuing in the career field, many enlisted members will no longer be available to meet deployed contingency contracting mission requirements. The expert panelists often offered an exemption to allow enlisted members to remain in the career field for the sake of those mission requirements. Are those individuals then permitted to possess a "professional" certification? If so, does it follow that the completion of an academic degree is not necessary for an individual to be a professional? Using Pavalko's description of professions, it is not apparent that a degree represents professionalism, only that a specific set of knowledge and skills are required. If it is determined that enlisted can still be certified as professionals without completing a degree, how can one argue that other personnel must have a business degree to be considered professional? It is recommended that this conflict be resolved by allowing enlisted to remain in the career field, they are often acquired through the cross training process and provide a valuable understanding of military processes in contingency situations, but only offer certification to those who meet all requirements established for a "professional" regardless of his or her employment status. This would allow continuity in the Air Force's contingency contracting mission, one with a very successful track record, while at the same time

preserving the credibility of the certification. Offering waivers to the requirements serves to connote an inconsistent interpretation as to the value of the certification.

*Experience.* A majority of the experts surveyed in this study believed the experience requirements for certification at levels II and III to be too lenient. The fear is that the certification will not represent an individual's actual technical abilities. Individuals can spend up to four months attending training courses for the Level I and II certifications, and receive the Level II certification after only two years in the career field. When the training courses are spread evenly over the two-year period, it is doubtful that an individual will have spent more than two consecutive months at a time obtaining the necessary work experience for Level II certification. Most of the experts on the panel also agree that individuals certified at the highest level, Level III, should represent the most highly qualified professional in the career field. The extent and variety of different duties carried out by contracting personnel require significant time to master. The experts participating in this study did not believe four years to be sufficient time for an individual to reach the status that should be carried by the Level III designation. It is recommended the APDP certification requirements be revised to require actual work experience (apart from training and other duties) for a time exceeding two years for Level II, and a time exceeding four years, preferably six years or greater, for Level III certification.

*Training.* Overall, the experts participating in this study agreed with the current course listings required at each level of certification; however, the actual content of instruction and administration of those courses was heavily criticized. The PCE courses currently offered at DAU are, in the opinion of the group, far less demanding than the

need for training dictates. If the APDP is to improve the workforce and therefore increase competency across the profession, then the training offered through the program should serve a higher purpose than simply completing certification requirements. The expert panel held that current courses are next to impossible to fail and rarely challenge the student's current ability upon arrival to the training. The experts also attacked the propensity to encourage Computer-Based Training (CBT) as a less expensive alternative to in-residence coursework. The experts fear that students will only be required to learn objective material and cease to benefit from alternative points of view and the combined experiences of other students. Based on the suggestions from this study's panel of experts, it is recommended that DAU reevaluate the strategic purpose for professional training and develop measurable indicators to ensure that purpose is fulfilled in the workforce.

*Comprehensive Examination.* A majority of the experts surveyed did not seek a comprehensive examination requirement be added to the APDP process; however, some support for the requirement is noteworthy. Those seeking to implement a requirement for applicants to complete a comprehensive examination stated the primary reason for doing so was rooted in the inadequacies of the PCE currently offered. Several experts agree that there is no current requirement for individuals to demonstrate actual learning at training courses, they must only attend the courses and retain the information up until an interim examination is administered. The experts desire the APDP certification to represent a level of professional development, rather than just a record of attendance. It is recommended the APDP certification requirements be re-evaluated in this area in order

to devise a method, through an examination or otherwise, to ensure the workforce actually retains and applies the knowledge and skills representative of professionals.

*Re-certification.* Over half of the experts indicated that there was no need to periodically re-certify individuals at their current level. However, all of the experts believe that continuous learning and development are necessary. Currently, the Air Force's Continuous Learning policy requires individuals to meet annual professional education requirements similar to the re-certification requirements of other certification programs; however, there is no enforcement of the policy on record. A professional certification should represent an individual's current level of professional development. It is recommended the Continuous Learning policy be enforced by requiring individuals to meet the policy's objectives in order to retain their professional status. One method of doing so would be to require continuous learning for an individual's certification to remain in effect.

*Summary.* DAWIA and the APDP were implemented to ensure the professional development and overall improvement of the acquisition workforce. Beyond the benefits reaped by the overall defense acquisition process, the professional development of acquisition personnel assures both internal customers and the general public that the trust they've placed in these professionals is well founded. The experts have considerable doubt as to whether the current certification requirements actually fulfill these purposes of DAWIA. The NCMA CPCM certificate is currently recognized among the experts participating here as more rigorous and prestigious than the APDP certification. If that opinion is one widely held across the community, it is apparent the level of professional development currently required is less than that which is desired.

### *Limitations*

This study examined the state of two certification programs using the Delphi method with two panels of experts in the contracting career field. This research was based on relevant literature on the subject and conducted in accordance with the principles of the method; however, the study does suffer from some limitations.

The method used to create the data for analysis in this study required open discussions between experts who remained anonymous in name and title throughout the study. This requirement led the researcher to limit the size of the discussion panels to facilitate an efficient exchange of information. The results of this study have limited external validity and any conclusions can only be drawn in the context of the expert panels surveyed. The results of the research cannot be stated to represent the opinion of all experts in the acquisition workforce.

This study was accomplished under fixed time constraints; therefore, the researcher was not at liberty to pursue each issue discovered during the discussion. The study offered a broad introduction to the subject matter and identified many issues of high importance; however, few of these issues were discussed to the point of group consensus and several were passed over as a result of the short time frame. This study does not offer a final determination on the subject of professional certification, only a starting point for identifying issues in need of further study.

Finally, it was apparent at different points throughout the discussion, that participants read the questions with different predispositions in mind. This resulted in separate referent points for the researcher and some participants concerning the terminology used in developing questionnaires. At more than one point in the study, the researcher

received comments from participants that did not offer the desired information. The initial questionnaire in Cycle 1 was pre-surveyed to ensure the inter-item reliability of the questions. Beyond the first cycle, questionnaires were based on the comments generated during the previous cycle. This process did not lend itself to continual pre-survey administrations; it is important to perpetuate the discussion through timely feedback. Future researchers should carefully consider the terminology used in developing questionnaires for subsequent cycles; clarity should not be overcome by eloquence.

### *Recommendations for Future Research*

The questions submitted to the experts in this study often generated more questions than answers. The Delphi process, though suitable for the research problem, does require extensive time to generate a definable group opinion. This study examined the certification process as a whole; however, as the discussion progressed it was evident that each element of the discussion process offered an opportunity for a dedicated discussion. Additionally, the expert participants all had significantly greater experience in the career field than the researcher, these individuals were actually aware of issues the researcher had not previously considered. The limitations of this study, and the suggestions of the expert panel members, led to the following recommendations for future research:

The issue of professional certification and workforce improvement remains timely and pertinent. It is recommended that future research on the subject include determining the effects of the new personnel qualification standards on the acquisition workforce. The National Defense Authorization Act of 2001 was mentioned at different phases of this study and is an area of great concern throughout the contracting career field.

SAF/AQC and the Air Force Recruiting Service would likely benefit from studies determining the ability of the current workforce to meet the new requirements and any effects to personnel levels and the ability to carry out mission objectives.

Another issue arising from the discussion was the effectiveness of alternative training methods. While the experts preferred the opportunities for interaction offered by in-residence coursework, computer based instruction and on-line courses offer less expensive means for widespread training. Future research is recommended for determining the advantages and disadvantages of the different methods in delivering effective acquisition training. The Defense Acquisition University would likely be interested in the findings of such research.

This study focused on the opinions of a few, albeit qualified, individuals concerning issues that affect the entire acquisition workforce. In assessing the effectiveness of the certification programs, it is necessary to understand the certification requirements were designed for implementation in all branches of the armed services. This study looked only at the effectiveness of two certification programs as they apply to the Air Force. It is recommended that future studies be conducted to determine the effectiveness of the programs as they apply to the other branches of the DoD, and to determine whether a single set of certification requirements is appropriate for an acquisition workforce divided among the different mission objectives of the separate services.

A final recommendation for future research born out of this study concerns the validity of the current certification programs. Currently, there are no requirements for individuals to demonstrate continued mastery of the material presented in PCE courses. It is recommended that further study be conducted to determine whether certification



programs foster continuous development of the workforce or whether the certificate can only indicate an individual's ability on the date of certification. Also, the extent to which routine duties in the workplace continually reinforce initial training or whether periodic refresher courses are necessary to ensure continuous workforce improvement.

### *Summary*

This chapter discussed the conclusions drawn from the research described in the four previous chapters, described recommendations based on those conclusions, and offered suggestions for future research on the subject.

The role of professional certification is widely accepted as a positive motivator of professional development. Professional certification enhances the credibility of a profession and offers individuals a planned curriculum to improve their technical competence and overall professionalism. The APDP and CPCM certification programs collectively involve all of the popular elements of successful professional certification programs. The CPCM is recognized as a superior certification to APDP as a result of its higher level of difficulty and established credibility among acquisition professionals. The APDP certification was designed to regulate a mandated improvement to the defense acquisition workforce; however, the certification suffers from mediocre requirements and a lack of difficulty, making it a poor indicator of an individual's status as a professional. This research is hardly the final word on the subject and was quite limited in scope and generalizability. Future studies are necessary to ensure the full benefit potential offered by professional certification is realized within the defense acquisition workforce.

## Appendix A: Expert Panel Membership

### *Active Duty Air Force*

1. Colonel Garry Varney  
OC-ALC/PK; Director, Contracting
2. Lt Col Henry Gaudreau  
DCM Pratt & Whitney; Commander
3. Lt Col Jeffrey Schmidt  
ASC/YDK; Chief, Contracting Division
4. Anonymous, Lt Col
5. Major Michael Dodds  
HQ AMC/XPMS; Chief, Strategic Sourcing
6. Major (Select) Dwayne Sellers  
17 CONS/CC; Commander

### *Civilian*

1. Mr. Milton Ross, SES  
HQ AFMC/PK Deputy Director of Contracting
2. Mr. Joseph Farrey, GS-15  
ASC/PKX Chief, Contracts and Support Division
3. Ms. Charlotte Dayton, GS-14  
OO-ALC/WMK Chief, Contracts Division, Munitions
4. Ms. Linda Greaves, GS-13  
1 CONS/LGCD Director, Business Operations
5. Mr. Charles Woodside, GS-13  
HQ AETC/LGCM Senior Procurement Analyst,  
NCMA National Vice President for Education and Certification
6. Anonymous, GS-13

## Appendix B: Initial Information for Participants



### DEPARTMENT OF THE AIR FORCE AIR UNIVERSITY (AETC)

<Date>

1st Lt Ron Tougaw  
AFIT/ENV  
2950 P Street, Bldg. 640, Box 4107  
Wright-Patterson AFB OH 45433-7765

<Recipient Address>

Dear <Participant Name>

Thank you, once again, for offering your time and expertise to participate in this study. This research effort, sponsored by the National Contract Management Association (NCMA), will utilize the information you provide to benefit Contracting leadership in making future decisions concerning our professional certification programs. You have been carefully selected to contribute to this project based on your expert-level certification status, as well as the depth of your experience in the career field. Your willingness to engage in this forum, and your commitment to the continuous improvement of the acquisition workforce is greatly appreciated.

The purpose and procedures of the study are detailed in Attachment 1. Please complete the Participant Profile Questionnaire at Attachment 2 and return it to this office using the envelope provided.

During the week of 13-17 November, you will be contacted via electronic mail announcing the start of the study. Additional instructions will be provided to you at that time. If you have any questions, or need additional information at any time, please contact me by telephone at (937)320-0999 (home), or through electronic mail at [Ronald.Tougaw@afit.af.mil](mailto:Ronald.Tougaw@afit.af.mil).

Sincerely

RONALD L. TOUGAW, JR., 1st Lt, USAF  
Master's Degree Student,  
Air Force Institute of Technology

#### Attachments:

1. Initial Information
2. Participant Profile Questionnaire

Attachment 1

**A DELPHI EXPERT ASSESSMENT OF PROFESSIONAL CERTIFICATION  
PROGRAMS FOR DoD CONTRACTING PERSONNEL**

**Purpose:** To provide a forum for gathering expert input to benefit Contracting leadership in making future decisions concerning professional certification programs available to DoD Contracting personnel.

**Background:** Approximately 10 years have passed since the Defense Acquisition Workforce Improvement Act (DAWIA) required DoD personnel in various acquisition career fields to be certified at a level commensurate with the complexities and responsibilities required of their position. Since that time, Contracting personnel have been encouraged to enhance their professional development by obtaining mandatory DAWIA certifications, as well as other optional certifications offered by the National Association of Purchasing Managers (NAPM), National Institute of Governmental Purchasing (NIGP), and National Contract Management Association (NCMA). In general, obtaining a professional certification involves achieving a level of formal education, professional continuing education, and experience in the career field. Additionally, some certification programs include the successful completion of a comprehensive examination, and require re-certification after an allotted time.

**Method of Study:** This study will use the Delphi discussion technique, developed by RAND, to conduct an expert evaluation of existing contracting professional certification methods and determine the extent to which those methods meet, or fail to meet, the strategic initiatives behind the certification process, and assess the reasons attributable to that success or failure. The technique allows a panel to convene from geographically separated locations and participate in detailed discussions while maintaining anonymity. The panel members' identities are not disclosed to the other members of the panel. This technique provides a forum for discussion that is unrestricted by the effects of personality and politics. Panel members are at liberty to speak freely and debate openly without attribution or the fear of reprisal.

Each panel member will receive a set of instructions and an open-ended questionnaire, via electronic mail, at the beginning of each discussion cycle. The instructions will set a deadline, usually three duty days, for the submission of responses. The facilitator will then compile the individual responses and release the results to the individual panel members for comment to begin the next cycle of discussion. It is anticipated the study will require five or six discussion cycles. Panel members will receive information at a single electronic mail address, but may respond using any electronic mail account. *NOTE: At no time will an individual response, or summary of responses, be attributed to a particular individual participating in the study.*

**Point of Contact:** Please refer all questions regarding this study to:

1st Lt Ron Tougaw

[REDACTED]  
Ronald.Tougaw@afit.af.mil

Attachment 2

**PARTICIPANT PROFILE QUESTIONNAIRE**

Name: \_\_\_\_\_ Grade/Rank: \_\_\_\_\_

Office Symbol: \_\_\_\_\_ Duty Phone (    ) \_\_\_\_\_ - \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Email address you wish to be contacted at: \_\_\_\_\_

Current Position Title: \_\_\_\_\_

Total Contracting Experience (*years*): \_\_\_\_\_

Operational Contracting (*years*): \_\_\_\_\_

Systems Contracting (*years*): \_\_\_\_\_

Other Contracting (*years*): \_\_\_\_\_

Date of Level III Certification: \_\_\_\_\_

Other Certifications (*please include date*):

NCMA CACM: \_\_\_\_\_ NCMA CPCM: \_\_\_\_\_

NIGP: \_\_\_\_\_ NAPM: \_\_\_\_\_

Other: \_\_\_\_\_

\_\_\_\_ (*Initials*) I hereby give my permission to be identified as a participant in the written report following this study. I understand that, at no time during or following this study, will my individual responses be attributed to my identity.

-or-

\_\_\_\_ (*Initials*) Please do not identify me as a participant in the written report following this study.

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

## Appendix C. Delphi – Cycle 1 – Initial Questionnaire

### Introductory Information:

Approximately 10 years ago the Defense Acquisition Workforce Improvement Act (DAWIA) significantly changed the way the DoD components manage acquisition personnel career development. DAWIA established mandatory standards for certifying individuals at the appropriate level for their position. Additionally, acquisition personnel, those in the contracting career field in particular, have been encouraged to pursue various outside certifications offered by NAPM, NIGP, and NCMA. Each certification program is composed of various requirements, some in common and some unique. Over all, contracting professional certification programs require a level of accomplishment in some or all of the following categories of development: Formal Education, Training (Continuing Professional Education (CPE)), Contracting Experience, and Successful Completion of Comprehensive Examination. The Air Force's APDP certification program separates individuals into one of three levels of certification, while the other programs offer single certifications or multiple certifications independent of one another. Some of the certification programs require individuals to be re-certified through additional CPE or examinations, while others have no such requirement.

*The following questions concern the certification of contracting professionals in general. The term "certification" does not indicate a particular certification program; it only refers to the act of determining an individual has achieved a desired level of professional development in the career field.*

### Questions:

1. What value does formal education provide to the workforce that cannot be achieved through experience and training? What specific degrees or disciplines should be required? At what level (BS, MS, PhD ...)?
2. The training requirement of most certification programs is accomplished through the completion of PCE courses. What value, if any, does this type of training offer beyond that received at the workplace? What specific courses or subject areas should be required?
3. What is the value of requiring a minimum amount of contracting experience before granting certification? What is the appropriate way to measure that experience? What specific tasks or areas of experience should be required?
4. What is the value added by requiring the successful completion of a comprehensive examination before granting certification?
5. What value is provided to the workforce by requiring re-certification? Which categories of development should be included in the re-certification requirement?

6. What is the value of certifying professionals at progressive levels, as opposed to providing a single certification for all personnel?

7. Please review your answers to the questions above. Should there be different requirements for military and government civilian personnel? For DoD and private industry personnel?

End Cycle 1.

## Appendix D. Synopsis of Responses For Delphi Cycle 1

**Table 8. Civilian Responses to Delphi Cycle 1 / Question 1**

<b>What value does formal education provide to the workforce that cannot be achieved through experience and training? 6 of 6 panelists responding</b>
Formal education supplies a broad base of learning, well-rounded personnel; draws on topics not focused on in training or achieved through experience. (3)
Formal education adds credibility and credentials...society values academic degrees and equates them with competence and success...for society to consider federal employees to be the most qualified in their field, academic degrees are necessary. (2)
Formal education supports a wider worldview...guarantees a better understanding of the business world...facilitates a network that can be utilized in the work world.
Experience is very important to day-to-day government business, but the perception of the quality of government personnel is just as important.
<b>What specific degrees or disciplines should be required? 4 of 6 panelists responding</b>
Earlier in my career, I would have answered that a business degree had a significant advantage...I have seen employees without formal business education pick up on business principles through the application of common sense and government training and become very competent in contracting.
In the systems and logistics arena, an undergraduate degree in Industrial Management is quite helpful...for operational contracting, a general business degree is sufficient...all programs should include training in cost accounting.
A bachelor degree, or equivalent, in any discipline should be acceptable.
Although business should be part of the requirement, what other disciplines could bring to the career should not be overlooked...history and other degrees teach people to research and think...a well-rounded education is very important.
<b>At what level (BS, MS, PhD...)? 4 of 6 panelists responding</b>
Grades 11-12 should have a BS/BA; above Grade 13, an MS should be required.
An individual whose undergraduate degree is not in business would benefit from an MBA program or specialized MA or MS procurement program.
Beyond a bachelor's degree, additional education should not be required, but should be considered favorably when hiring for jobs with increased responsibility.
As a minimum, a BS degree should be required. Individuals without a Master's Degree will not be competitive for promotions to Grade 13 or above.
<i>Numbers in parentheses indicate the number of similar responses</i>



**Table 9. Military Responses to Delphi Cycle 1 / Question 1**

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**What value does formal education provide to the workforce that cannot be achieved through experience and training? 6 of 6 panelists responding**

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Formal education exposes individuals to a wider variety of topics and learning situations than normally possible through experience in a work environment. (3)

Contracting cannot consider itself a professional community without a degree requirement.

Individuals completing degrees prove their ability to see a long-term task through to completion.

Formal education aids in developing the type of new and innovative thinking required for success in the career field; it develops an individual's ability to critically analyze and apply information that is produced by others.

Formal education provides opportunity for people to learn how to learn, improving their ability to apply logic to develop solutions to problems and helping them to develop an appreciation for different perspectives.

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**What specific degrees or disciplines should be required? At what level (BS, MS, PhD...)? 6 of 6 panelists responding**

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The type of degree should be business or business related (or include a minimum number of business credit hours)...a business degree covers many important areas such as business law, business communication, organizational structure, management and leadership skills...how can we expect our career field to understand contractors without a degree in business?...business related degrees are the most desirable at the undergraduate level...but would not rule out other degrees as long as the person has at least 24 credit hours in business. (4)

[In systems/logistics contracting] it seems the FAR is used more as a starting place for an eventual deal. The contracting team is challenged with creating a contract that captures the deal yet complies with law...new thinking is required. The thinking pattern encouraged by a liberal arts degree aids in that type of thinking...I don't believe it has to be a business degree, in fact, I almost think that a bachelor's in business is a bad thing. I am convinced an engineering degree provides a person too dogmatic...no objection to business degrees at the Master's level.

Almost any undergrad degree could achieve the desired objectives. At some level, the duties of contracting personnel include the supervision of others. A graduate degree that emphasizes organizational and interpersonal relations (e.g., management, psychology, political science, sociology) may be beneficial.

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*Numbers in parentheses indicate the number of similar responses. Some respondents may be represented by multiple responses*

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**Table 9. (Continued)**

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**What specific degrees or disciplines should be required? At what level (BS, MS, PhD...)?** *Continued*

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To enter the career field it should be a BS. To advance to senior level we should require an MS.

A bachelor's degree should be required. Additionally, a specific amount of business courses should be a part of the degree. You should not be required to have the business hours to enter into the career field; however, in order to move up to jobs of more responsibility, the business courses should be required.

In order to attain top certification, an undergraduate degree should be required.

*One respondent stated an exemption of formal education requirements for enlisted personnel, "it's well proven that enlisted personnel perform post, camp, and station contracting duties in an outstanding manner...they are not required to have a college degree...I am always pleased when I hear an Army officer remark that the Army sends company officers and even Majors to do the same work as our enlisted."*

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**Table 10. Civilian Responses to Delphi Cycle 1 / Question 2**

<p><b>What value does PCE training offer beyond that received at the workplace?</b>  <i>6 of 6 panelists responding</i></p>
<p>PCE develops needed skills...training in the mechanics of the trade. (2)</p> <p>PCE exposes an individual to contracting methods and ideas they might not be ordinarily exposed to...allowing for a broader academic theoretical discussion. (2)</p> <p>PCE reinforces good on-the-job training.</p> <p>PCE offers the opportunity to network with peers and draw on each other's experiences. (2)</p> <p>PCE catches current trends...is the best way to get new ideas out to the field. (2)</p>
<p><b>What specific courses or subject areas should be required?</b>  <i>3 of 6 panelists responding</i></p>
<p>The following courses or topics should be required: Contract Law, Pricing, Contract Administration, Negotiation Techniques, and Market Research.</p> <p>A requirement for a Quantitative Methods course should be added.</p> <p>Broader training requirements should be added, "we need to have training focused on other disciplines (finance, history, etc.) to help the workforce see the big picture."</p>
<p><b>Other Issues. 3 of 6 panelists contributing</b></p>
<p>Some questioned whether certification programs have heightened the need for PCE, "prior to the APDP certifications in contracting, virtually 100% of our workforce had completed more than the requisite courses...certification requirements have had little to no impact on the PCE training or workforce receives," and "[once an individual is certified] the availability of government sponsored courses is very limited...it forces people to seek out organizations, such as NCMA, who can provide these courses." (2)</p> <p>Another stated that, "if [PCE] is received before on-the-job training, the individual may have difficulty in finding the correct frame of reference for the topics being taught."</p>
<p><i>Numbers in parentheses indicate the number of similar responses</i></p>

**Table 11. Military Responses to Delphi Cycle 1 / Question 2**

<p><b>What value does PCE training offer beyond that received at the workplace?</b>  <i>6 of 6 panelists responding</i></p> <p>PCE courses allow students to focus completely on a given subject without the interference of other duties. (2)</p> <p>PCE exposes an individual to contracting methods and ideas they might not get exposed to during routine OJT...offers a wide range of scenarios and explores different options to resolve issues. (3)</p> <p>PCE allows people to acquire specific knowledge and skills...it is important for those entering the field to learn the tools necessary for the profession.</p> <p>Offers the opportunity to network with peers and draw on each other's experiences. (6)</p>
<p><b>What specific courses or subject areas should be required?</b>  <i>3 of 6 panelists responding</i></p> <p>The basic courses as currently structured offer the desired curriculum; it's a good mixture of general contracting to specific contracting issues. (2)</p> <p>The following course work should be required: Source Selection/Best Value, Contract Management, Contract Law, Services, Construction, Systems, and Contingency Contracting, Pricing, and Electronic Contracting.</p>
<p><b>Other Issues.</b> <i>1 of 6 panelists contributing</i></p> <p>I'm not sure the majority of training is still accomplished by sending people to PCE. I believe we should have the courses we had ten years ago...pricing was done in three phases, each [one] difficult, but people learned to price...we had specific courses on services contracts...we used to send everyone to contract law...we had three courses in how a major program was conceived and brought through the milestones. Now we just tell people to sit in their cubical and do [computer-based training] and "oh, by the way, answer your phone while you're there".</p>
<p><i>Numbers in parentheses indicate the number of similar responses</i></p>

**Table 12. Civilian Responses to Delphi Cycle 1 / Question 3**

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**What is the value of requiring a minimum amount of contracting experience before granting certification? 5 of 6 panelists responding**

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Without performing the task, mastery will never be achieved.

Education and training are only effective when put into practice...most contracting knowledge comes from the job, not the classroom. (2)

Experience provides the ability to screen distracting and irrelevant information to discover the root of the problem...experience also involves dealing with political and emotional issues not always present in straightforward classroom exercises.

Requiring experience before certification allows the assumption of a level of technical competency, unlike academic degree programs.

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**What is the appropriate way to measure that experience? 3 of 6 panelists responding**

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The current method of measurement is appropriate. Currently, professional certification programs require a number of years experience in contracting or a contracting related field.

"X number of years in a certain job could be a way of measurement." This response is similar to the first but seems to require experience in specific areas of contracting rather than just a minimum time in the career field.

The current measure is appropriate but the level of experience required is insufficient, "experience time should equal that of the complexity of courses required for that certification level...a minimum of 2 years experience for Level 1...6 years for Level 2 and 10 years for Level 3 would be more in line with the course material." Note: *The levels referred to are those of the APDP certification program.*

The individual should meet the requirements necessary for obtaining a PCO or ACO warrant before being granted certification.

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**What specific tasks or areas of experience should be required?**

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*0 of 6 panelists contributed information in response to this portion of the question.*

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*Numbers in parentheses indicate the number of similar responses*

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**Table 13. Military Responses to Delphi Cycle 1 / Question 3**

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**What is the value of requiring a minimum amount of contracting experience before granting certification? 5 of 6 panelists responding**

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Proficiency only comes through solving real problems.

Certification denotes a level of professionalism and competency...standards for experience must be set to ensure the integrity of the certification process.

The knowledge and skills obtained through classroom training can only be matured through application to actual contracting processes...no amount of education is sufficient without hands-on contracting experience. (4)

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**What is the appropriate way to measure that experience? 6 of 6 panelists responding**

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The contracting position can be broken down into a number of essential tasks. Tasks can then vary in terms of their relative effect on organizations (e.g., criticality, dollar value, priority). Experience should be measured in terms of the quantity of essential tasks performed of varying quality

Experience should be measured by time spent in a specific job...years spent in a SPO vs. operational contracting vs. administration. To rise to the senior levels in contracting a person should have a background in [all three areas].

The enlisted OJT skills upgrade is the best way I've seen...a list of core tasks that any contracting professional would need to know. This system is susceptible to "pencil whipping"; however, you have to rely on the integrity in the system and trust the individuals certifying an individual.

A base of knowledge must be obtained for each level of certification. [Basic level certificants] must understand and have accomplished 1 year of simplified acquisition procedures. [Intermediate level certificants] must demonstrate understanding and 3-4 years experience in services, construction, or systems contracting. [Advanced level certification] should require 8 years of above experience.

The only way to ensure an individual has mastered the necessary skills to perform all job requirements is to give that individual work in every area of the business...this is not practical. The default is to grant certification after a minimum amount of time on the job...this is by no means an optimal solution, either.

I don't think it appropriate to segregate by type of contracting. How do you classify the experience? Some contracting in ASC is more like base contracting and some at many HQs is more like systems. Just go with the number of years.

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*Numbers in parentheses indicate the number of similar responses*

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**Table 13. (Continued)**

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**What specific tasks or areas of experience should be required?**

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I believe that the career field should require some minimum job experience in addition to time before certification. For example, a person should have experience in solicitation preparation, contract negotiation, contract award, etc.

I believe a standardized base of knowledge through experience must be obtained for each level of certification. For example, Level I must understand and have accomplished one year of simplified acquisition procedures. Level II must demonstrate understanding and three to four years experience in services, construction, or systems contracting. Level II would require eight years of the above experience.

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*Numbers in parentheses indicate the number of similar responses*

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**Table 14. Civilian Responses to Delphi Cycle 1 / Question 4**

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**What is the value added by requiring the successful completion of a comprehensive examination before granting certification? *6 of 6 panelists responding***

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It would not be a “professional” certification without a comprehensive examination. For Level I certification, I don’t believe a test is necessary – training and experience complete this. Level II is about the same. However, having a test for Level II and/or III may help in declaring contracting a professional field.

A comprehensive examination gives credibility to the certification. If there is no exam, there is not confirmation that the individual has mastery of the material...only that the individual was in the classes or was at work for a specified period of time. For the certification to have credibility there must be a comprehensive exam and it must be possible to fail the exam. The professional certifications granted by AFIT in the past aren’t real prestigious. Everybody (well almost everybody) passes the classes and attaining the certification isn’t much of an accomplishment. The CPCM exam administered by NCMA, on the other hand, had a 60% fail rate in its early days. Successfully passing the CPCM is truly an accomplishment and is recognized as such by the professional workforce.

The requirement forces the person to study areas that they would not normally deal with on an everyday basis. The contracting professional should at least be exposed to all aspects of the field and the comprehensive exam does this. With contracting becoming a dynamic field one never knows where or what one will be doing next year.

If formal education, training, and experience are required, then examinations shouldn’t be. Only consider examinations to substitute or waive formal education.

There is little alternative if the goal is for the candidate to show mastery of the subject material

Comprehensive examinations are overvalued. We have study programs that tend to teach the test. Not optimal.

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**Table 15. Military Responses to Delphi Cycle 1 / Question 4**

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**What is the value added by requiring the successful completion of a comprehensive examination before granting certification? 6 of 6 panelists responding**

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I am not in favor of a comprehensive examination for granting certification at this stage in the ADPD program. PCE test scores, OJT evaluation, appraisal feedback, etc., are adequate standards for determining whether or not an individual is able to perform the job. I would be willing to reconsider this position, if and when OPM changes the status of contracting to a professional series.

Comprehensive exams serve two purposes. The first and most obvious is reason is to assure a minimum standard for entry into the profession. The other second reason concerns increasing the level of commitment of the individual to the profession. One of the primary predictors of commitment to a course of action is the amount of effort required to initiate that course of action. People who have struggled to complete a comprehensive examination will have greater commitment to the values and beliefs held by that professional field.

It demonstrates a minimum level of knowledge. It also shows dedication to the career. Just like accounting uses the CPA to distinguish between accountants.

I'm not certain the examination and study for the examination are discriminators. But, the demonstration of commitment shown by studying for and taking the examination is what I look for.

I don't see the value of any comprehensive exam for government certification. My experience of being around folks preparing for NCMA certification is to just study to take/pass test. I'm not sure that requirement alone for NCMA certification equates to an instant professional.

A comprehensive examination is important because it indicates the overall knowledge an individual has in contracting. It's one thing to know about a specific area like source selections, but every contracting professional should have a good general knowledge of all contracting areas. You have to be able to see the forest through the trees.

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**Table 16. Civilian Responses to Delphi Cycle 1 / Question 5**

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**What value is provided to the workforce by requiring re-certification?**

*6 of 6 panelists responding*

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The objective of re-certification is to ensure the workforce remains current concerning regulatory changes and best practices in the profession. (2)

Individuals should be required to continue their professional education and training even after they achieve certification. (5)

Re-certification is of greater benefit to the certifying association (keeps them in business) than it is to the workforce.

I do not see any value, as long as ongoing training is required.

I see no value in re-certification if a graduated/progressive certification approach is used.

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**Which categories of development should be included in the re-certification requirement?** *3 of 6 panelists responding*

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Generally, they should be trained in areas that have been subject to substantial change.

Include courses in contract and fiscal law as well as information on other government agencies and how they operate.

At least a working knowledge of any changes in the law, regulations, and industry standards that affect the profession.

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*Numbers in parentheses indicate the number of similar responses. Some respondents may be represented by multiple responses*

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**Table 17. Military Responses to Delphi Cycle 1 / Question 5**

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**What value is provided to the workforce by requiring re-certification?**

*6 of 6 panelists responding*

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A re-certification requirement will encourage people to take time from their busy work schedules in order to attend professional continuing education and may motivate people to maintain their tool set. Sometimes this type of incentive is needed. People tend to do the things they are good at. This often comes at the expense of other things that may be important to the position.

Absent a comprehensive examination, I am not in favor of re-certification given the current standards of education, training and experience. I am also not in favor of subjective standards for re-certification--it will become a paper exercise.

Keeping current through training and meeting a minimum standard (i.e., 40 hours per year of acquisition related coursework) is of value for re-certification. This requirement ensures the employee continues to be exposed to current trends in acquisition and doesn't remain static in their knowledge base.

Contracting is changing constantly. What I learned 11 years ago in contracting has change 3 or 4 times since then. Re-certification is important to ensure people are keeping up with these changes.

I don't believe there is any value in re-certification. For example, my certification (CPCM) has expired. I had spent over two years as a division chief at ASC and over two years at the AFMC Headquarters when it expired. Yet, I needed to send seventy dollars and submit a list of NCMA seminars I'd sent. Seemed like method to get me to send money and demonstrated no value added.

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**Which categories of development should be included in the re-certification requirement?** *2 of 6 panelists responding*

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Re-certification can include continuing education, experience, and knowledge/experience captured in some form of examination.

I think all categories of development should be included. All levels of contracting are constantly changing.

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**Table 18. Civilian Responses to Delphi Cycle 1 / Question 6**

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**What is the value of certifying professionals at progressive levels, as opposed to providing a single certification for all personnel?** *6 of 6 panelists responding*

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Each level demonstrates progress in career, professional standing and, hopefully, knowledge in the field of study.

Certifying individuals at progressive levels gives new personnel attainable goals for the short-term, rather than overwhelming them with long-term expectations. The APDP graduated approach is effective in eventually producing contracting masters. (2)

Individuals progress in the career field from apprentice to journeyman to master craftsman. An individual should be required to show they have completed the requirements of each level before being allowed to progress to the next.

Having a lower level certification (e.g., the CACM rather than the CPCM) is more of a mark against than a mark for an individual. It indicates an individual is not yet proficient enough for the top certification but received a token certification for lesser requirements.

Contracting work does not fall out at logically varying degrees of difficulty. The certification should match the level of work required. It is not always easy to determine which individuals need a higher level of certification.

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*Numbers in parentheses indicate the number of similar responses*

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**Table 19. Military Responses to Delphi Cycle 1 / Question 6**

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**What is the value of certifying professionals at progressive levels, as opposed to providing a single certification for all personnel?** *6 of 6 panelists responding*

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The primary value of progressive levels is to provide intermediate goals to the individual entering the profession. A certification program with a meaningful set of requirements may appear daunting to someone just entering a career. People need to believe that their efforts will lead to success. If they have low expectations of this, they may not try. By providing progressive levels, the requirements for certification become more in line with the individuals expectations.

I am in favor of "progressive levels" in the contracting career field because of the stratification of jobs in the career field. There are many jobs that require minimal contracting training and experience. We set the standards for those positions and should recognize those individuals who have met those standards. They should not be held to a "higher" standard that is not necessary to perform their job.

It allows me to meet a person with an expectation of their level of knowledge. In addition, it allows me to understand an employee's motivation. Lastly, it gives me a check, years in the career field vs. certification level; if the two don't match I've probably got a person that I don't want to hire.

Progressive levels are desirable because employees have different levels of responsibility and are exposed to variable degrees of difficulty. One size fits all is seldom the right approach and doesn't fit the reality of type of workload distributed within an organization. A certification should fit the person's expertise, experience and complexity of workload expected to be handled.

Having progressive levels gives people the ability to establish short-term goals and fulfill these goals. If you have a single certification that takes 4 to 6 years to attain, you may lose many people before they ever started.

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**Table 20. Civilian Responses to Delphi Cycle 1 / Question 7**

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**Please review your answers to the questions above. Should there be different requirements for military and government civilian personnel? For DoD and private industry personnel? 6 of 6 panelists responding**

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I see no reason for different requirements for military vs. Government Civilian vs. private industry personnel. One rigorous certification level is all that is required if you are to maintain the credibility of the certification. Creating different requirement levels will result in one certification category being seen as having lesser requirements and therefore lesser prestige/credibility.

Requirements for certification in the federal government for contract professionals should be the same for the military and the civilian workforce. That does not mean that the military that are required for deployments should not carry a separate certification level denoting their skills and competency levels as contingency contracting officers. They are a critical part of the performing the DOD mission...Since [DoD] contracting deals directly with our counter parts in industry, I think the certification designations should mirror that process also. Maybe we should tie the Level 3 APDP certification to the passing of the NCMA CPCM exam. It would really cut down on the Level 3 population.

Military and civilians should have the same requirements...I don't believe DoD and private industry always have the same acquisition focus, and an exact duplication in certification would be difficult.

It will be very difficult to apply all the criteria to enlisted personnel who carry much of the load in being deployed for contingency contracting efforts. Few of them could meet all the qualifications. Unless and until it becomes necessary to have a license to be a contracting professional (improbable, at best) there is no need to include private industry personnel in the discussion.

Military and civilian members should follow the same rules of the road – no exceptions. DoD employees have a public fiduciary responsibility that calls for a higher degree of professionalism than industry would be expected to levy on itself.

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**Table 21. Military Responses to Delphi Cycle 1 / Question 7**

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**Please review your answers to the questions above. Should there be different requirements for military and government civilian personnel? For DoD and private industry personnel? 6 of 6 panelists responding**

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Absolutely not, there should not be different requirements for military and government civilian personnel. An argument might be made that civilians do not do contingency contracting; however, I disagree with that. Contingency contracting takes many forms that could occur right at the base you're at (i.e., natural disaster). Military and civilians perform the same tasks and should have the same requirements.

DoD and private industry personnel should have different requirements. I define private industry as companies that do not contract with the federal government. This part of private industry has different codes they comply with and should have different requirements. Private industry that contracts with the federal government should have the same requirements as the DoD as they have to comply with substantially the same regulations and law as DoD personnel.

No difference in certification for any gov. employee. There may be need to be a study if different certification requirements should be enacted for DOD and private industry. There are different standards and expectations between the 2 groups.

Military should be required to attend more contracting schools, in residence, which deal with contracting in deployed locations. All DoD contracting personnel should attend more classes in residence. Private industry is an entirely different animal. It even depends upon a different set of laws, the Federal Acquisition Regulations versus the Uniform Commercial Code. Private industry depends more upon control and oversight of subcontractors than DoD. Private industry uses long-term agreements and other concepts that DoD cannot.

I believe this has been a big problem in the past. The military have been held to a higher standard. Military officers have to have a degree, get a master's, and move to a variety of jobs just to get promoted. In order to make contracting a truly professional career field, civilians must be required to have a degree. If civilians want to hold senior level positions they must be willing to move in order to get a broad background in contracting. However, I recognize the most of the civilians will not move, and that's fine. The civilians still must provide continuity. I just think we must now weed-out all civilians who do not have a degree.

I do not believe there should be different standards just because of the uniform a person wears. I am not concerned about private industry requirements.

I think the requirements should be the same. I believe the job duties for a DOD contracting professional are independent of military status.

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Appendix E. Delphi – Cycle 2(a) – Formal Education (Civilian)

**What value does formal education provide to the workforce that cannot be achieved through experience and training? What specific degrees or disciplines should be required? At what level (BS, MS, PhD ...)?**

I've consolidated your responses to the first question. The number in the parentheses following each statement indicates the number of you who made similar responses. There was general agreement to the value of formal education, but some disagreement on the discipline and level of education. In this cycle, we need to make sure we have consensus on the areas of agreement, and then further explore areas where there is dissimilarity in opinions.

The first section contains points of relative agreement. I want to make sure we have consensus on these points. Please comment on the extent you agree or disagree with each statement. Provide your reason(s) for disagreement.

**Areas Of Agreement:** All respondents believe that formal education provides value to the workforce. The support offered for this assertion included:

- Formal education supplies a broad base of learning, well-rounded personnel; draws on topics not focused on in training or achieved through experience. (3)

- Formal education adds credibility and credentials...society values academic degrees and equates them with competence and success...for society to consider federal employees to be the most qualified in their field, academic degrees are necessary.(2)

- Individuals with formal education are familiar with methods of analyzing and solving problems...they are able to apply analytical and organizing techniques on the job.

- Formal education supports a wider worldview...guarantees a better understanding of the business world...facilitates a network which can be utilized in the work world.

- Experience is very important to day-to-day government business, but the perception of the quality of government personnel is just as important.

Consensus seems to have also occurred on the issue of the disciplines to require for formal education. Overall, the group agreed that degree requirements need not be limited to a business curriculum.

- Earlier in my career, I would have answered that a business degree had a significant advantage...I have seen employees without formal business education pick up on



business principles through the application of common sense and government training and become very competent in contracting.

- A bachelor degree, or equivalent, in any discipline should be acceptable.
- In the systems and logistics arena, an undergraduate degree in Industrial Management is quite helpful...for operational contracting, a general business degree is sufficient...all programs should include training in cost accounting.
- Although business should be part of the requirement, what other disciplines could bring to the career should not be overlooked...history and other degrees teach people to research and think...a well-rounded education is very important.

**Areas for Further Discussion:** There were different thoughts on the level of education that should be required. Overall, it is not clear whether the group believes the formal education requirement must be met through the completion of a degree or a lesser amount of coursework.

- Grades 11-12 should have a BS/BA; above Grade 13, an MS should be required.
- An individual whose undergraduate degree is not in business would benefit from an MBA program or specialized MA or MS procurement program.
- Beyond the bachelor degree, additional education should not be required, but should be considered favorably when hiring for jobs with increased responsibility.
- As a minimum, a BS degree should be required. Individuals without a Masters Degree will not be competitive for promotions to Grade 13 or above.

**Questions:**

- 1. Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field?**
- 2. Considering APDP and other contracting professional certifications (CPCM, CACM...), why is it important for the individual to possess an undergraduate degree before being granted professional certification?**
- 3. Under what circumstances would a formal education requirement be waived?**
- 4. Does your answer to Question 1 apply equally to officer, enlisted, and civilian personnel? Why or why not?**

**End Cycle 2a.**

## Appendix F. Delphi – Cycle 2(a) – Formal Education (Military)

**What value does formal education provide to the workforce that cannot be achieved through experience and training? What specific degrees or disciplines should be required? At what level (BS, MS, PhD ...)?**

I've consolidated your responses to the first question. The number in the parentheses following each statement indicates the number of you who made similar responses. There was general agreement to the value of formal education, but some disagreement on the discipline and level of education. In this cycle, we need to make sure we have consensus on the areas of agreement, and then further explore areas where there is dissimilarity in opinions.

The first section contains points of relative agreement. I want to make sure we have consensus on these points. Please comment on the extent you agree or disagree with each statement. Provide your reason(s) for disagreement.

**Areas Of Agreement:** All respondents believe that formal education provides value to the workforce. The support offered for this assertion included:

- Formal education exposes individuals to a wider variety of topics and learning situations than normally possible through experience in a work environment. (3)
- Contracting cannot consider itself a professional community without a degree requirement.
- Individuals completing degrees prove their ability to see a long-term task through to completion.
- Formal education aids in developing the type of new and innovative thinking required for success in the career field; it develops an individual's ability to critically analyze and apply information that is produced by others.
- Formal education provides opportunity for people to learn how to learn, improving their ability to apply logic to develop solutions to problems and helping them to develop an appreciation for different perspectives.

### **Areas for Further Discussion:**

The second half of the question did not result in as much across the board consensus. Several different opinions arose concerning the need to require a degree for entering the career field or granting certification.

- 1 of 6 respondents did not require a degree for entrance into the career field, "you should not be required to have the business hours to enter...in order to move up to jobs of more responsibility, the business courses should be required."

- 1 of 6 respondents stated that an undergraduate degree should be required for entrance "to enter the career field it should be a BS"

- 1 of 6 respondents stated that an undergraduate degree should be required for certification at higher level "in order to attain top certification, an undergrad degree should be required"

- 1 of 6 respondents stated that an exemption of formal education requirement for enlisted personnel, "it's well proven that enlisted personnel perform post, camp, and station contracting duties in an outstanding manner...they are not required to have a college degree...I am always pleased when I hear an Army officer remark that the Army sends company officers and even Majors to do the same work as our enlisted..."

- 2 of 6 respondents stated that a graduate degree should be required for certification at highest level (2) "to advance to senior level we should require an MS," and ... "at some level, the duties of contracting personnel include the supervision of others...a graduate degree that emphasizes organizational and interpersonal relations (e.g., management, psychology, political science, sociology) may be beneficial"

In addition, some respondents propose that any degree can provide the needed value to the workforce, while others stated a specific degree preference.

- 4 of 6 respondents stated that the type of degree should be business or business related (or include a minimum number of business credit hours)... "a business degree covers many important areas such as business law, business communication, organizational structure, management and leadership skills...how can we expect our career field to understand contractors without a degree in business?" ... "business related degrees are the most desirable at the undergraduate level...but would not rule out other degrees as long as the person has at least 24 credit hours in business."

- A contrasting opinion expressed the matter this way: "[In systems/logistics contracting] it seems the FAR is used more as a starting place for an eventual deal. The contracting team is challenged with creating a contract that captures the deal yet complies with law...new thinking is required. The thinking pattern encouraged by a liberal arts degree aids in that type of thinking...I don't believe it has to be a business degree, in fact, I almost think that a bachelor's in business is a bad thing. I am convinced an engineering degree provides a person too dogmatic...no objection to business degrees at the Master's level."

- The final respondent did not specifically require a business degree, stating that almost any undergrad degree could achieve the desired objectives. The respondent did

indicate the degree should prepare the individual for contracting by requiring proficiency in oral and written communication, and interpersonal and organizational skills.

Three areas of disagreement appear to need further discussion. The first area of disagreement is the timing of a requirement for an undergraduate degree. Specifically, is a degree required before entrance, or before certification, and under what circumstances should the requirement be waived? The second area concerns whether the degree should be associated with a business discipline. The third area mixes the issues of advanced formal education and multiple levels of certification. We'll reserve this discussion for a later cycle. I developed the following questions to help us further explore the issues of timing, exceptions, and discipline. Please answer the questions using as much space as you need to support your position.

**Questions:**

- 1. Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field?**
- 2. Why is it important for the individual to possess an undergraduate degree before being granted professional certification?**
- 3. Under what circumstances would a formal education requirement be waived?**
- 4. What value does formal education in a business related discipline provide to the workforce that cannot be achieved through other means (e.g., formal education in other disciplines, experience or training)?**

**End Cycle 2a.**

## Appendix G. Synopsis of Responses For Delphi Cycle 2a

**Table 22. Civilian Responses to Delphi Cycle 2a / Question 1**

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**Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field? 6 of 6 panelists responding**

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I don't believe it is necessary to have a completed degree before entrance at the 5 pot 9 level. However, any advancement beyond that should require a degree.

Recent news: Because this year's DoD Appropriations bill requires it [*respondent included a full text excerpt from Section 1724 of title 10, United States Code, as amended by Public Law 106-398 (Section 808)*]. Attaining a bachelor's degree indicates the candidate has shown the ability to accomplish a significant long-term goal and prioritize their actions to accomplish this goal. The individual acquires a body of knowledge through the process of attaining the degree. While everything learned in this process may not relate to knowledge required to perform on the job, the individual develops basic skills in acquiring the degree. The degree is evidence the candidate has some skill in researching, organizing, analyzing and communicating (orally and in writing). The bachelor's degree has replaced the high school degree as an indicator the candidate possesses the expected entry-level qualification skill set in American society. If we are not recruiting from the American population that has acquired bachelor's degrees, we are recruiting people from the lower half of the available workforce pool.

It depends at what level the person comes into the career field. If they enter at the GS 7 or 9 positions the 24 business credits are enough to get them started but a degree needs to be obtained for the GS 11 and above. Any targeted growth position of a GS 11 or above should require the degree before appointment.

I don't think it should be required before entrance into the program, as long as it is clear it will be required before certification and they are actively pursuing their degree.

By and large the private sector counterparts a government contracting professional will be dealing with will have degrees. A degree is necessary just to establish a level playing field. The Air Force has used the COPPER CAP program to be extremely selective with new civilian accessions.

We have been on a long path to "professionalize" the contracting career field. The degree requirement is one method to take us further on that journey so that contracting has the same regard in the acquisition business as does, say, engineering. I also personally think that a college graduate has a far better opportunity for advancement within the career field than the non-grad. Among civilians, it is literally impossible to progress above the GS-11 level at most locations without a degree. It takes a Masters at many locations to progress above the GS-12 level.

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**Table 23. Military Responses to Delphi Cycle 2a / Question 1**

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**Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field? *5 of 6 panelists responding***

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How can we ever be considered a professional career field without a degree requirement? We assume that [lawyers, engineers, and accountants] have a minimum educational requirement that is further supplemented through professional certifications and experience. Why would we ever consider anything less for our profession? We should continue to raise our standards and require more stringent requirements to enter and stay in the contracting career field. To me, requiring a degree is the very foundation of the career field. Anything less reduces our stature. The one exception is for our enlisted. Their primary purpose is for operational contracting and to be prepared to deploy. Training to deploy should be their primary focus. But even they should be strongly urged to obtain a degree.

I don't think having a degree is an absolute must for entrance. In operational contracting, 50% of workforce is enlisted. The overwhelming majority enter the career field as a cross trainee without a degree. The AF couldn't maintain contingency contracting support for the warfighter without enlisted contracting members. Officers entering the career field will always have undergrad degree. Civilians entering contracting should have minimum of 24 business hours of coursework. To set an undergrad degree as requirement would hamstring the ability of most operational wings to maintain effective contracting support.

I don't think it is important. In order to progress up the ranks, I think an undergraduate degree should play a significant factor.

Part of being a profession is maintaining the public image that special knowledge, skills and abilities are required to perform the tasks required of the professional, and that these can only be obtained through formal education followed by experience...Part of the reason for a degree requirement prior to entrance is to create barriers that help prevent erosion of the profession. Think about what would happen if you allowed someone entrance to the field without the formal education requirement being completed, and they learned all the necessary knowledge, and developed the required skills such that they were able to perform all the functions. Their ability to perform the job without the personal sacrifice would encourage others to do the same.

If we ever want to become a professional series, we must have an educational entrance standard...contracting folks are being challenged with much more than issuing an order or being a file clerk. The Business Advisor role, though not formalized in our standard job descriptions, is a real world event. From this perspective, it is imperative that we have a workforce that is educated, especially in business related subjects. Once hired, few people take or have the time to attain an undergraduate degree—these folks are at a disadvantage from the start and typically become disgruntled employees as years pass and promotion opportunities never come.

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**Table 24. Civilian Responses to Delphi Cycle 2a / Question 2**

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**Considering APDP and other contracting professional certifications (CPCM, CACM...), why is it important for the individual to possess an undergraduate degree before being granted professional certification? 6 of 6 panelists responding**

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I think it is important to differentiate between the APDP "box top" certifications (just send in your box tops in the form of completed courses and you are certified for life) and the NCMA professional certifications, which require rigorous examinations and periodic re-certification. An undergraduate degree is a reasonable prerequisite for certification in a quasi-professional field such as contracting.

Certification demonstrates a level of professional development.

The NCMA CACM does allow for certification prior to bachelor degree (or at least it did when I took it). The CPCM does not because it assumes a professional contracts person has the academic credentials. In the business world, many contract folks are lawyers or at least have their Masters.

The value of professional certification is its credibility as an indicator the holder has met some defined criteria. The more rigorous the defined criteria, the more esteem and credibility (and thus value) the certification will hold. The concept of professionalism indicates the "professional" has demonstrated a level of proficiency in a defined body of knowledge. Without a degree requirement, it will be hard to demonstrate the professional certification has any more value than wallpaper.

Because it is called a *professional* certification.

I think we're talking about "professional building blocks" in this case. The foundation is formal education. In the same way that we certify physicians, dentists, and lawyers, we require a specific level of formal education from accredited sources before we grant certification. To do this in reverse, cheapens or minimizes the value of the certification in my mind. In the worst case it renders the certification to a meaningless status. If we didn't believe in the professional nature of the work we could talk in terms of apprenticeships and journeymen and trade associations and the sort of certification the trades grant.

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**Table 25. Military Responses to Delphi Cycle 2a / Question 2**

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**Why is it important for the individual to possess an undergraduate degree before being granted professional certification? 5 of 6 panelists responding**

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Under the current APDP 3 tiered process, an undergrad degree shouldn't be required for level one certification. The workforce filling entry/lower pay grade positions will not have a degree. I can see the possibility an undergrad degree requirement for level 2 and MS for level 3. However, much more study on the affect this would have on workforce will have to be accomplished.

Based on [my answer to Question 1], everyone in career field should have a degree. Therefore it has to be a requirement for certification. A certification should be built on the degree by requiring certain specific training and experience. Certification should show a person has gone through a stringent program to obtain the certification. A certification should say a great deal about the person and their capabilities.

Your formal education is an important part of progressing in contracting. Professional certification shows a level of mastery of the technical aspects of contracting. An undergraduate degree is one way of evaluating the technical mastering of the contracting career field. Therefore, a certain portion of an acceptable undergraduate degree should be in business.

If we are serious about professional certification, then it is imperative that an education standard be part of the certification process.

*One respondent stated the answer was the same as that given for Question 1.*

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**Table 26. Civilian Responses to Delphi Cycle 2a / Question 3**

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**Under what circumstances would a formal education requirement be waived?**

*6 of 6 panelists responding*

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A long-term (ten years or longer) history of performance demonstrating the individual advanced from performing the simplest career functions to those expected of a professional. This would be an apprentice to journeyman progression that can be demonstrated by assignments and accomplishments over an extended time period. Demonstration of performance at the managerial level of complexity within the career field. For example, an individual may move from one career field to another and demonstrate performance at the managerial level of the second career field through an adroit use of managerial skills, which make up for technical shortcomings. (anecdotal explanation... I've worked for some General Officers who demonstrate an exceptional understanding of contracting concepts and the acquisition process even though they have not spent one minute of time in a contracting position. They have however demonstrated evidence of contracting knowledge that far surpasses our average "professional." On the other hand, I've worked for a couple that didn't have a clue what the PCO was talking about when the subject matter was contracting.)

For certification? If the certification did not have "professional" in the title.

For entry into the program, when an individual is actively pursuing completion of their undergraduate degree.

In the future, they should not be waived, except for the few remaining employees who met the original "10 years of experience as of 1991" criterion.

I do not see any circumstance where is should be waived at the Bachelor Degree level.

Only in the case of enlisted members. We in the AF are currently working a class waiver to Section 808 of this year's authorization bill to specifically exempt our enlisted troops, who stay within the career field to fill Contingency Contracting obligations only; a very limited segment of the total contracting force.

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**Table 27. Military Responses to Delphi Cycle 2a / Question 3**

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**Under what circumstances would a formal education requirement be waived?**

*5 of 6 panelists responding*

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Formal education should be waived only in circumstances where the individual has extensive experience. However, the waiver should only be for a period long enough to give the individual time to finish their formal education.

For entrance in the career field, none. For professional certification, some equivalent level of experience or significant completion of undergraduate business courses, maybe.

I don't believe a degree should be a requirement for entry into the career field or initial APDP certification.

At least one person made an argument for enlisted personnel exception. Many professions require formal degrees for entrance into certain positions, but not others. For example, in the medical profession, nurses and physician assistants need undergraduate degrees, and doctors require graduate degrees. Other positions like nursing assistants and technicians require training, but no formal degree requirement. A similar case can be made in the law profession. In both fields, the supporting personnel without degree requirements are performing functions essential to the profession, but they are excluded from performing specific functions reserved for the "professionals". These people are highly qualified, and normally receive extensive training, but they are not considered "professionals". These "paraprofessionals" are often certified, but it's a different certification system. Hierarchy of positions is very important in professions. There are contracting managers, contracting officers, buyers and administrative support positions on the systems acquisition side of contracting. Certain authority is reserved for those personnel who hold a warrant. They are probably the "professionals".

Waive the requirement only for enlisted.

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**Table 28. Civilian Responses to Delphi Cycle 2a / Question 4**

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**Does your answer to Question 1 apply equally to officer, enlisted, and civilian personnel? Why or why not? 6 of 6 panelists responding**

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Equally to all, because the level of certification demonstrates a level of professional development, not position held.

It does not apply to enlisted personnel grades E-1 through E-6. The types of positions these individuals would be required to hold are technical and administrative in nature, not requiring a baccalaureate degree. They perform some very important functions, not the least of which is carrying the lion's share of the contingency contracting duties. It is unlikely the services could recruit a sufficient number of degreed individuals to fill all these billets. I could see requiring a degree for E7-E9s who perform the superintendent duties, but I think it would conflict with overall enlisted promotion program. Officers and civilians all start on career ladders that could lead to senior acquisition positions, so formal education is a must.

Yes it would apply to officer, enlisted and civilian personnel. I envision a merit based career field wherein individual are judged by their knowledge and accomplishments, not by the method they entered the work force.

Yes, because the career field is the same and all should be treated equal. I still think the Air Force is going to have to change the thinking on for enlisted Contingency Contracting Officers and the required certifications required.

Officers and civilians, yes. Enlisted – perhaps not because they are not required to have a degree for advancement. At least they were not in the past.

No, only officer and civilian.

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**Table 29. Military Responses to Delphi Cycle 2a / Question 4**

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**What value does formal education in a business related discipline provide to the workforce that cannot be achieved through other means (e.g., formal education in other disciplines, experience or training)? 5 of 6 panelists responding**

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The business world is broken into a variety of different disciplines (logistics, acquisition, manufacturing, accounting, etc.). A business degree normally gives you the breadth of knowledge in all the different disciplines. You can normally get this knowledge from other sources; however, the business degree will provide you with a better foundation for learning.

If we just look at our business processes today the answer would be “moderate” value. But, looking beyond today and into the future world of enterprise business environments, I believe business degrees will offer “significant” value, especially as business schools adapt their curriculum to teach advance trends in e-commerce and IT solutions.

For an initial background, 24 hours of business related coursework is a good start for entry-level civilians. Enlisted should be waived from this requirement. However, as stated previously, a business degree isn’t the end all. We need professionals who can think logically, communicate clearly, and understand how to work in a team environment to accomplish tasks. These skills can be developed within the confines of any accredited degree program. The specific DOD acquisition specialty training will be provided as a matter of course.

I maintain that a business degree or related discipline is essential. This degree covers the types of knowledge and skills that are required for the contracting professional. Again, how can we manage, monitor, and negotiate with a contractor without having a basic understanding of how a business operates? A business degree helps with so many vital areas. This includes: accounting and all that is related such as overhead rates; business communication, which is essential for the contracting professional by sharpening both writing and oral communication skills; and [it] helps with leadership and management skills...The contractors we work with certainly require these skills. We should not send a less educated workforce to deal with them. I take strong exception that a psychology or sociology degree is just as good. These degrees are a joke. They are for football players to major in. Why we would want to lower our standards? Lets get serious about developing contracting as a profession. This means requiring tough standards that are relevant to the service we perform. Anything less and we are wasting our time.

One respondent stated he did not know of any particular value furnished by a business degree over other disciplines.

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## Appendix H. Delphi – Cycle 2(b) – Training (Civilian)

**The training requirement of most certification programs is accomplished through the completion of PCE courses. What value, if any, does this type of training offer beyond that received in the workplace? What specific courses or subject areas should be required?**

I've consolidated your responses to the question above. The number in the parentheses following each statement indicates the number of you who made similar responses; some respondents may be represented by multiple responses. There was general agreement to the value of classroom training, but some respondents seemed dissatisfied with the particular training being offered or the method by which it is received. In this cycle, we need to make sure we have consensus on the areas of agreement, and then further explore areas where there is dissimilarity in opinions.

The first section contains points of relative agreement. I want to make sure we have consensus on these points. Please comment on the extent you agree or disagree with each statement. Provide your reason(s) for disagreement.

**Areas Of Agreement:** All respondents believe that classroom training provides value to the workforce. The support offered for this assertion included:

- PCE develops needed skills...training in the mechanics of the trade. (2)
- PCE exposes an individual to contracting methods and ideas they might not be ordinarily exposed to...allowing for a broader academic theoretical discussion. (2)
- PCE reinforces good on-the-job training.
- PCE offers the opportunity to network with peers and draw on each other's experiences. (2)
- PCE catches current trends...is the best way to get new ideas out to the field. (2)

**Areas for Further Discussion:** At this point, the group opinion on specific courses or topics to require is indeterminable. 2 of 6 respondents did not indicate specific courses to require but did raise another interesting issue that merits discussion.

- 1 of 6 respondents required the following courses or topics: Contract Law, Contract Administration, Pricing, Negotiation Techniques, and Market Research.
- 1 of 6 respondents added the requirement of teaching Quantitative Methods.

- 1 of 6 respondents thought broader training should be added, “we need to have training focused on other disciplines (finance, history, etc.) to help the workforce see the big picture.”

- 2 of 6 respondents questioned whether certification programs have heightened the need for PCE, “prior to the APDP certifications in contracting, virtually 100% of our workforce had completed more than the requisite courses...certification requirements have had little to no impact on the PCE training or workforce receives,” and “[once an individual is certified] the availability of government sponsored courses is very limited...it forces people to seek out organizations, such as NCMA, who can provide these courses.”

- 1 of 6 respondents stated that, “if [PCE] is received before on-the-job training, the individual may have difficulty in finding the correct frame of reference for the topics being taught.”

**Questions:**

- 1. To what extent do you agree with requiring the courses listed above?**
- 2. Do the current certification programs satisfy these requirements?**
- 3. To what extent has establishing certification programs emphasized PCE for the workforce? Is this favorable?**
- 4. What experience should be required before attending PCE?**

**End Cycle 2b.**

## Appendix I. Delphi – Cycle 2(b) – Training (Military)

**The training requirement of most certification programs is accomplished through the completion of PCE courses. What value, if any, does this type of training offer beyond that received in the workplace? What specific courses or subject areas should be required?**

I've consolidated your responses to the question above. The number in the parentheses following each statement indicates the number of you who made similar responses; some respondents may be represented by multiple responses. There was general agreement to the value of classroom training, but some respondents seemed dissatisfied with the particular training being offered or the method by which it is received. In this cycle, we need to make sure we have consensus on the areas of agreement, and then further explore areas where there is dissimilarity in opinions.

The first section contains points of relative agreement. I want to make sure we have consensus on these points. Please comment on the extent you agree or disagree with each statement. Provide your reason(s) for disagreement.

**Areas Of Agreement:** All respondents believe that classroom training provides value to the workforce. The support offered for this assertion included:

- PCE courses allow students to focus completely on a given subject without the interference of other duties. (2)
- PCE exposes an individual to contracting methods and ideas they might not get exposed to during routine OJT...offers a wide range of scenarios and explores different options to resolve issues. (3)
- PCE allows people to acquire specific knowledge and skills...important for those entering the field to learn the tools necessary for the profession.
- PCE offers the opportunity to network with peers and draw on each other's experiences. (6)

**Areas for Further Discussion:** Many of the respondents stated that the current PCE curriculum is satisfactory. One contrasting opinion looks at a unique issue that merits further group discussion.

- 2 of 6 respondents did not indicate specific courses to require.

- 2 of 6 respondents believe the current curriculum meets the necessary requirements, “the basic courses as currently structured offer the desired curriculum,” and “it’s a good mixture of general contracting to specific contracting issues.”

- 1 of 6 respondents listed the following course work: Source Selection/Best Value, Contract Management, Contract Law, Services, Construction, Systems, and Contingency Contracting, Pricing, and Electronic Contracting.

- 1 of 6 respondents feared that, in terms of PCE, the contracting community is serving the certification programs, rather than the certification programs servicing the workforce, “I’m not sure the majority of training is still accomplished by sending people to PCE...I believe we should have the courses we had ten years ago...pricing was done in three phases, each [one] difficult, but people learned to price...we had specific courses on services contracts...we used to send everyone to contract law...we had three courses in how a major program was conceived and brought through the milestones...now we just tell people to sit in their cubical and do [computer-based training] and ‘oh, by the way, answer your phone while you’re there’.”

**Questions:**

- 1. To what extent do you agree with requiring the courses listed above?**
- 2. Do the current certification programs satisfy these requirements?**
- 3. How is the workforce benefiting from the level of difficulty in current course offerings?**
- 4. Why should certification programs require in-residence PCE, rather than giving credit for on-line or software instruction?**

**End Cycle 2b.**



**Table 30. Civilian Responses to Delphi Cycle 2b / Question 1**

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**To what extent do you agree with requiring the courses listed above?**

*5 of 6 panelists responding*

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I agree with all of them.

Concur with this listing of required courses: Contract Law, Contract Administration, Pricing, Negotiation Techniques, and Market Research. I also concur that the quantitative methods class should be required for Level III certification.

I think the idea of broader training is one that should be addressed in the Bachelor Degree requirements. Having just a Business degree may not be the only useful one for this career field. I do believe that all contracting personnel need training in people skills. Most academic courses described above do not address this important aspect if the career field. Negotiating skills, meeting skills, personal interaction and organizational behavior are very important courses that need to be mandatory for anyone at the GS 12 level and above.

I agree with Contract Law, Contract Administration, and Pricing & Negotiation Techniques. In addition, I like the idea of a broader training focus by adding the possibility of requiring an elective type course to be taken from another field. There is the need for a basic course, such as CONS 101. Market Research is included in CONS 101 and CONS 202, and a separate course isn't required, although possibly enhancing what is currently taught might be helpful.

Some, but not all would benefit from quantitative methods, (many would have had that discipline included in their undergraduate work others will be in jobs that never require it). Anyone who is going to spend any time as a contract negotiator needs to have some Cost Accounting to supplement the Pricing courses.

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**Table 31. Military Responses to Delphi Cycle 2b / Question 1**

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**To what extent do you agree with requiring the courses listed above?**

*3 of 6 panelists responding*

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All the courses listed above should be required. Getting certified should be a demanding process. Once certified, it should show that a person is a well-rounded, well-educated contracting professional.

Strongly agree. The focused discussions on these topics, provided in a classroom setting, provides an exchange of information which prepares the student for hundreds of real world events that they would not otherwise experience. For example, a company goes bankrupt...the book solution is pretty straightforward but the difficulty comes in implementing that solution. A classroom discussion is the only way to explore that issue. Ultimately, I'd like to see courses on Contract Law, Services Contracts, Public/Private contracting issues, Contract Types, Technical / Engineering contracts, Major programs (both basic & advanced), Deployed contracting issues, commercial contracting, and contracting innovations, and contracting system(s) (i.e. SPS [or for the next few years: MOCAS, DIRAMS, BCAS, etc.).

You should have the following courses:

1. 1 to 3 basic courses that take you from cradle to grave on an acquisition. This is important because you have to know the basics before you can think outside the box.
  2. Pricing – Understanding how a proposal is developed and priced is so important in evaluating a proposal and should be one of the fundamental courses every contracting professional should take.
  3. Law – Another essential training course. This course should be case based and require critical thinking. This should not be to give basic law terms and definitions. That's why we have the basic courses.
  4. Contract Administration – This should focus on how to administer a contract and should also be case based and focus on critical thinking, dispute resolution.
  5. Specialized training – This should include instruction in systems, contingency, services, construction, electronic contracting, etc. This should supplement your basic contracting training.
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**Table 32. Civilian Responses to Delphi Cycle 2b / Question 2**

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**Do the current certification programs satisfy these requirements?**

*5 of 6 panelists responding*

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Yes, I believe they do.

The current certification process encompasses needed courses, with the exception of elective type courses.

No.

No these skills are sorely lacking in the current programs.

I hope I'm not getting confused here. This question says "programs" and I thought we were just talking about APDP. Assuming that we are addressing just APDP, this program addresses the basic needs but should always be subject to review and further tweaking.

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**Table 33. Military Responses to Delphi Cycle 2b / Question 2**

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**Why is it important for the individual to possess an undergraduate degree before being granted entrance into the contracting career field? 3 of 6 panelists responding**

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Do the current certification programs satisfy these requirements?

No, current cert programs are, by in large, square fillers and only provide minim exposure to issues. In some respects we had a better-trained workforce before the certification programs, our problem was that it wasn't evenly spread. Some people were trained very well, others not at all. Now we've improved the minimum but have fewer very well trained people.

I believe the certification process should be more demanding. As discussed before, it should have strict academic and training requirements along with years of the right experience included.

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**Table 34. Civilian Responses to Delphi Cycle 2b / Question 3**

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**To what extent has establishing certification programs emphasized PCE for the workforce? Is this favorable? 5 of 6 panelists responding**

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It is favorable but does not go far enough. It has forced the workforce to take minimal requirements. Once they have the APDP level certification many experienced people do not seek out additional training opportunities. There is no re-certification courses required unlike the NCMA certification programs.

The mandatory APDP makes for a much more orderly acquisition of contracting knowledge than was previously possible when availability of courses and opportunities to attend seemed to be almost random. I believe that the average 1102 with five years experience today is far ahead of where I was at the same point in my career in the 1970s.

It has increased the emphasis and importance of attending the PCE courses by a small amount. Yes it has been favorable, although not significant.

The APDP certification program institutionalized the training need and actually started emphasizing the need to train civilians better. It forced management to insure everyone in the field received training. It has been very favorable.

*One respondent indicated he or she had no opinion for this question.*

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**Table 35. Military Responses to Delphi Cycle 2b / Question 3**

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**How is the workforce benefiting from the level of difficulty in current course offerings?** *3 of 6 panelists responding*

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They all pass if they show up and breathe. Has anyone every flunked? Probably not. There are to many job related issues if they do. We do the DoD a disservice by perpetuating less than excellence as acceptable. So, to address that we've now got a law that says everyone must have a college degree. Wrong answer.

I'm not sure how the courses are being conducted lately. One of the problems with training in the Air Force is that training is now controlled by AETC. AETC does a good job with pilot training and tech training by not so good with academic type training. The instructors are not given the freedom to make the courses top quality. The focus is on throughput, not quality training. In addition, for someone to leave acquisition to go become an instructor in AETC for three years will most likely hurt his or her careers. This makes it tough to get quality folks teaching our contracting professionals.

I think the current courses are way too easy. I have yet to be challenged in a contracting course. What happens is you get people that are APDP Level II or III certified and don't know much about contracting because the courses are so easy. I like NCMA's CPCM and CACM tests. Course completion should not be enough. A final test should be required to truly test an individual's knowledge of contracting.

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**Table 36. Civilian Responses to Delphi Cycle 2b / Question 4**

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**What experience should be required before attending PCE?**

*5 of 6 panelists responding*

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Require 6 to 8 months experience on the job before attending any course. Most attendees tell me they learn so much more when they've been exposed on the job first. In addition, requiring a graduated increase of experience for higher-level courses like the existing process is appropriate.

Minimum of 6 months.

I believe current APDP level required experience is too short. A minimum of 2 years for Level I, 6 years for Level II and 10 years for Level III. Running trainees through these programs too quick and giving them their certifications without the experience just makes industry question the validity of the certification process in the federal government.

A minimum of 3 months on the job before attending the basic contracting course would be advisable.

Recommend at least two months before attending CON 101. After that, 3-4 months experience for the remainder of the classes required for Level I certification should be adequate. Recommend at least one full year's experience before taking Level II required courses and at least 3 year's experience before taking courses required for Level III requirements.

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**Table 37. Military Responses to Delphi Cycle 2b / Question 4**

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**Why should certification programs require in-residence PCE, rather than giving credit for on-line or software instruction? 4 of 6 panelists responding**

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All six participants identified the importance that PCE provide an opportunity to network with peers and draw on each other's experiences. This can only occur in an interactive group setting (residence, traveling instructor, or interactive video). I think we need to make a determination of what content can be taught through safe-paced means (e.g., computer based training) and what content should be reserved for the group. One approach would be to require people to successfully complete a CBT portion prior to attending a group session. This could have the dual benefits of increasing the quality of group interactions by preparing people with a common vocabulary prior to class, as well as decreasing the time required for group interactions. A detailed analysis is beyond the scope of this exercise, but discussing some of the ideas may prove to be an important start.

Let's really think about on-line and software instruction. The student is pretty much by him/herself and trying to do the work at the day-to-day work place. That person doesn't have anyone to discuss the issues with nor ask questions of. There is no exchange of ideas or experiences. Learning occurs best in the discussion and interaction with fellow students and instructors. My experience is that the in-class text and test is a minimum, the instruction is significantly broader than the text. The in-class questions focus on where the student is interested and in need of help. The latest issues are quickly incorporated in the curriculum. Overall the learning experience is significantly better.

Interaction with the other students is essential. Otherwise, training becomes a square-filling exercise. We can certainly save time and money by doing on-line courses, and conducting classes by VTCs. However, if we are really serious about training we need to bring contracting professionals into a training environment where they can network and share ideas from their diverse backgrounds. I also think it's important for students to concentrate solely on school while taking a course and not be distracted by work in any way. Just like officers taking SOS. Taking it correspondence just does not measure up to the experience of attending in person. We have to be dedicated to the importance of training, and contracting professionals will have to make arrangements to attend training as needed.

I think many of the basic contracting courses can be taken on-line. If the validation of the student's ability is to take a multiple-choice test, then there are ways of taking a closed book test on-line. This should be more than acceptable. However, I believe the higher level, more specialized training should be case study and tested through written, essay exams. The specialized training courses would need to be more free flowing because of the case study/critical thinking aspect and an on-line course would not be able to accommodate.

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## Appendix K. Delphi – Cycle 2(c) – Experience (Civilian)

**What is the value of requiring a minimum amount of contracting experience before granting certification? What is the appropriate way to measure that experience? What specific tasks or areas of experience should be required?**

I've consolidated your responses to the question above. The number in the parentheses following each statement indicates the number of you who made similar responses; some respondents may be represented by multiple responses. There was general agreement to the value of experience, but there is some disagreement as to how the experience should be measured. In this cycle, we need to make sure we have consensus on the areas of agreement, and then further explore areas where there is dissimilarity in opinions.

The first section contains points of relative agreement. I want to make sure we have consensus on these points. Please comment on the extent you agree or disagree with each statement. Provide your reason(s) for disagreement.

**Areas Of Agreement:** All respondents believe that experience provides value to a certification. The support offered for this assertion included:

- Without performing the task, mastery will never be achieved.
- Education and training are only effective when put into practice...most contracting knowledge comes from the job, not the classroom. (2)
- Experience provides the ability to screen distracting and irrelevant information to discover the root of the problem...experience also involves dealing with political and emotional issues not always present in straightforward classroom exercises.
- Requiring experience before certification allows the assumption of a level of technical competency, unlike academic degree programs.

**Areas for Further Discussion:** 4 of 6 respondents submitted a particular method of measuring experience before granting certification. At this point it is not possible to determine the overall group opinion of the best measure of experience.

- 1 of 6 respondents stated the current method of measurement is appropriate. Currently, professional certification programs require a number of years experience in contracting or a contracting related field.



- 1 of 6 respondents stated that “x number of years in a certain job could be a way of measurement.” This response is similar to the first but seems to require experience in specific areas of contracting rather than just a minimum time in the career field.

- 1 of 6 respondents stated that the current measure is appropriate but the level of experience required is insufficient, “experience time should equal that of the complexity of courses required for that certification level...a minimum of 2 years experience for Level 1...6 years for Level 2 and 10 years for Level 3 would be more in line with the course material.” Note: *The levels referred to are those of the APDP certification program and don’t apply to other certifications.*”

- 1 of 6 respondents added that the individual should meet the requirements necessary for obtaining a PCO or ACO warrant before being granted certification.

**Questions:**

**The APDP certification program has the following experience requirements: 1 year in contracting (Level I), 2 years in contracting (Level II), 4 years in contracting (Level III). The NCMA CPCM requires 2 years experience in: procurement, legal, MIS/IT, inventory mgt, project mgt, production, R&D, marketing, QA, finance, or business mgt.**

**1. Should the experience requirements insist on experience in more than one area of contracting?**

**2. What improvements can be made to these requirements?**

**End Cycle 2(c).**

**What is the value of requiring a minimum amount of contracting experience before granting certification? What is the appropriate way to measure that experience? What specific tasks or areas of experience should be required?**

I've consolidated your responses to the question above. The number in the parentheses following each statement indicates the number of you who made similar responses; some respondents may be represented by multiple responses. There was general agreement to the value of experience, but there is some disagreement as to how the experience should be measured. In this cycle, we need to make sure we have consensus on the areas of agreement, and then further explore areas where there is dissimilarity in opinions.

The first section contains points of relative agreement. I want to make sure we have consensus on these points. Please comment on the extent you agree or disagree with each statement. Provide your reason(s) for disagreement.

**Areas Of Agreement:** All respondents believe that experience provides value to a certification. The support offered for this assertion included:

- Certification denotes a level of professionalism and competency...standards for experience must be set to ensure the integrity of the certification process.
- The knowledge and skills obtained through classroom training can only be matured through application to actual contracting processes...no amount of education is sufficient without hands-on contracting experience. (4)

All respondents also agreed that a broad base of experience is desirable, although 3 respondents neglected to list specific areas of experience.

**Areas for Further Discussion:** The issue of which specific areas of experience to require may be explored further in a future cycle. At this point, the most contrast between respondents is seen in the issue of the proper way to measure experience.

- 1 of 6 respondents did not name a preference for measurement, "the only way to ensure an individual has mastered the necessary skills to perform all job requirements is to give that individual work in every area of the business...this is not practical...the default is to grant certification after a minimum amount of time on the job...this is by no means an optimal solution, either."

- 1 of 6 respondents indicated an individual's experience should be measured by the number of years on the job, "I don't think it appropriate to segregate by type of contracting...how do you classify the experience... some contracting in ASC is more like

base contracting and some at many HQs is more like systems...just go with the number of years.”

- 4 of 6 respondents believe the measurement should be more task specific, “the contracting position can be broken down into a number of essential tasks...tasks can then vary in terms of their relative effect on organizations (e.g., criticality, dollar value, priority)...experience should be measured in terms of the quantity of essential tasks performed of varying quality,” and “experience should be measured by time spent in a specific job...years spent in a SPO vs. operational contracting vs. administration...to rise to the senior levels in contracting a person should have a background in [all three areas],” and the enlisted OJT skills upgrade is the best way I’ve seen...a list of core tasks that any contracting professional would need to know...the system is susceptible to pencil whipping; however, you have to rely on the integrity in the system and trust the individuals certifying an individual,” and “a base of knowledge must be obtained for each level of certification...[basic level certificants] must understand and have accomplished 1 year of simplified acquisition procedures...[intermediate level certificants] must demonstrate understanding and 3-4 years experience in services, construction, or systems contracting...[advanced level certification] should require 8 years of above experience.”

**Questions:**

**The APDP certification program has the following experience requirements: 1 year in contracting (Level I), 2 years in contracting (Level II), 4 years in contracting (Level III). The NCMA CPCM requires 2 years experience in: procurement, legal, MIS/IT, inventory mgt, project mgt, production, R&D, marketing, QA, finance, or business mgt.**

- 1. Do these requirements support the group consensus that depth of experience is important?**
  
- 2. What improvements can be made to these requirements?**

**End Cycle 2(c).**

**Table 38. Civilian Responses to Delphi Cycle 2c / Question 1**

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**Should the experience requirements insist on experience in more than one area of contracting?** *4 of 6 panelists responding*

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I do not think experience in more than one flavor of contracting is necessary for certification. Always a help but not a pre-requisite.

That might work in the Military workforce but with civilians it would be difficult. The new Standard Core Position Description (SCPDs) which are mandatory for the base level contracting offices now make most everyone a contract specialist who can do any tasks – pre or post award. There are few career broadening positions for civilians and because that is true they are quite competitive. We do not want to make it so hard that none of our career folks can get certified.

The current APDP experience requirements are appropriate. I wouldn't agree with the approach of requiring experience in more than one area, although putting it forth as a stated desire would yield the same overall benefit. Bottom line in the hiring process the most qualified individual with all areas considered gets the job, and the individual that puts forth more effort will in the end reap the rewards.

To answer this effectively, we need to consider what the contracting officer of the future will be. Some say there will be a blending of program management with contracting. If so, then experience in the corollary field would be necessary.

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**Table 39. Military Responses to Delphi Cycle 2c / Question 1**

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**Do these requirements support the group consensus that depth of experience is important?** *3 of 6 panelists responding*

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These standards are acceptable and do show that depth of experience is important. I may increase the number of years required, but it's not necessary. It must be remembered that these standards are minimums.

I'm not sure they do. These requirements simply require time in the career field. I've had many employees with "twenty years experience, one year at a time." In other words, they had done the job for years and everything was still new to them. While I agree that depth of experience is what we're all looking for, I doubt the ability to consistently measure that experience. "One person's junk is another's treasure" so to speak. The real question is "How do we train our people and how do we measure the quality of that training?" Another important point to remember, you have three separate and specific different training goals. Enlisted, officer and civilian all are in the career field but fill different roles. (Note that I lump civilian in with enlisted at the base level.). To understand what depth of experience is desired you need to understand *what the person is being trained for*. We need a conversation on that issue. I submit we train civilians for long-term functional expertise; enlisted for functional expertise and the ability to perform a combat support function; and we train officers not so much for functional expertise but for what I'll call "strategic functional expertise."

That said, I do like the idea of an OJT record. Maybe we tailor that record for the specific training goals of each group. That was how it was done in the past. The requirement for officers was for the supervisor to complete the same OJT requirements as for the enlisted 5-level. In addition, we had to attend three or four classes. The requirement was to attend those courses within the first two years, Contract Law within the first year. The record was inspected during ORIs.

No, but it may not be the right question. I look at practical decisions in day-to-day operations. Do I really care if a person filling a Level II position has 2,3,4 years of contracting experience? The answer is "it depends." I'm looking for someone to get the job done and in some cases the person with 2-years is the answer. In other words, I don't want some artificial certification requirement to handicap my ability to place people into jobs that I know they will excel in. On the other hand, depth of experience is important as you move up in grade and responsibility. So, maybe we need to rethink how we classify our positions and have flexibility in determining depth of experience within each level through the job referral process vice certification process.

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**Table 40. Civilian Responses to Delphi Cycle 2c / Question 2**

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**What improvements can be made to these requirements?** *4 of 6 panelists responding*

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Extend the period required. The NCMA CPCM requirements have academic as well as experience requirements just to sit for the exam. You have to pass the exam also which is quite difficult. There are no final exams for APDP certifications levels. Maybe that would help.

As stated above, include diversity as a stated desire.

Define the role of the contracting officer in the post FASA environment and determine types of experience accordingly.

Two years experience to test for a CPCM or CACM is insufficient. You can pass the test with study, but you're hardly a "professional" at that point. One size never fits all of course but I'd be more comfortable, if we have to use time in the field as a criterion, with four years. Why 4 years? That's the length of time we devote to training our "advanced copper caps", or interns, and bringing them to grade 11 or 12 (also called journeyman level by some).

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**Table 41. Military Responses to Delphi Cycle 2c / Question 2**

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**What improvements can be made to these requirements? 3 of 6 panelists responding**

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Add the OJT record. But, ensure a check is done of the individuals assigned organization by a HQ functional expert trained in OJT monitoring. Keep the time in career field as a requirement. The OJT record would have to include alternate methods of filling a requirement. (There may not be a major source selection in an organization for years.) For Officer's I really believe that two tours in base level are important BEFORE making them squadron commanders. They really need to know the Air Force outside of the AFMC environment before they're expected to interact with the shooters and enlisted culture.

If you look at the Level III contracting jobs, they are significant positions requiring an in-depth knowledge of not only contracting, but also general leadership skills. Time and training (especially 4-years) do not necessarily insure an individual possesses necessary tools to successfully perform the job. I believe requiring specific job experiences should also be considered based on individual positions and not generically. For example, the C-17 Director of Contracts job and the ASC/PK job are both Level III positions. I would argue that the ASC job requires more "experience" than the SPO job. The question is "do we address this issue in the certification process or in job referral process?" I would lean to the job referral process, because the local office controls that process.

The best way to improve the standards is to require years of experience in specific areas. I believe this is the way the APDP certification program started. They required a minimum number of years of SPO experience. Many people were upset with this because they never worked in a SPO and probably never would. I think we should develop a matrix that shows what kind of experience would fulfill the requirements of earning certification. For example, instead of 2 years in a SPO, a person could meet the requirement by doing 4 years in some other area. However, we, as community, would probably never be able to come to gather to agree on what kind of experience is required to meet certification levels.

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**What is the value added by requiring the successful completion of a comprehensive examination before granting certification?**

I've consolidated your responses to the question above.

There is no determinable group consensus at this point. Of 6 respondents, 4 were in favor of an examination requirement while 2 were not. At this point I would like to present the responses and allow you to consider the other arguments in answering the question at the end of this document.

**Responses:**

- As far as professional certifications – it would not be a professional certification without a comprehensive examination. For level one certification, I don't believe a test is necessary – training and experience complete this. Level II is about the same. However, having a test for Level II and/or III may help in declaring contracting a professional field.

- The primary benefit of a comprehensive examination is it gives credibility to the certification. If an individual has passed the comprehensive exam, then the individual has demonstrated they have a specified level of mastery of the material. If there is no exam, there is not confirmation that the individual has mastery of the material... only that the individual was in the classes or was at work for a specified period of time. For the certification to have credibility there must be a comprehensive exam and it must be possible to fail the exam. The professional certifications granted by AFIT in the past aren't real prestigious. Everybody goes to the classes, everybody (well almost everybody) passes the classes and attaining the certification isn't much of an accomplishment. The CPCM exam administered by NCMA on the other hand, had a 60% fail rate in its early days. Successfully passing the CPCM is truly an accomplishment and is recognized as such by the professional workforce.

- The requirement of a comprehensive exam forces the person to study areas, which they would not normally deal with on an everyday basis. The contracting professional should at least be exposed to all aspects of the field and the comprehensive exam does this. With contracting becoming a dynamic field one never knows where or what one will be doing next year.

- If formal education, training, and experience are required, then examinations shouldn't be. Only consider examinations to substitute or waive formal education.



- There is little alternative if the goal is for the candidate to show mastery of the subject material

- Overvalued in my opinion. We have study programs that tend to teach the test. Not optimal.

**Areas for Further Discussion:** Please answer the following question. You are not confined to the context of one particular certification program; it is possible that none of the available certifications contain the optimal requirement. Concentrate on whether there should be a requirement for an examination, instead of whether that requirement is currently administered properly. Depending on whether the group is in favor of examination or not, we can discuss proper administration in a later cycle.

**1. In what way does requiring the completion of an examination strengthen, or fail to strengthen, a professional certification for the contracting workforce?**

**End Cycle 2(d).**

## Appendix O. Delphi – Cycle 2(d) – Comprehensive Examination (Military)

### **What is the value added by requiring the successful completion of a comprehensive examination before granting certification?**

I've consolidated your responses to the question above.

There is no determinable group consensus at this point. Of 6 respondents, 3 were in favor of an examination requirement while 3 were not. At this point I would like to present the responses and allow you to consider the other arguments in answering the question at the end of this document.

#### **Responses:**

- I am not in favor of a comprehensive examination for granting certification at this stage in the ADPD program. PCE test scores, OJT evaluation, appraisal feedback, etc., are adequate standards for determining whether or not an individual is able to perform the job. I would be willing to reconsider this position, if and when OPM changes the status of contracting to a professional series.

- Comprehensive exams serve two purposes. The first and most obvious is reason is to assure a minimum standard for entry into the profession. The other second reason concerns increasing the level of commitment of the individual to the profession. One of the primary predictors of commitment to a course of action is the amount of effort required to initiate that course of action. This partly explains why hazing remains popular in fraternities and sororities, and boot camp is so effective. People who have struggled to complete a comprehensive examination will have greater commitment to the values and beliefs held by that professional field.

- It demonstrates a minimum level of knowledge. It also shows dedication to the career. Just like accounting uses the CPA to distinguish between accountants.

- I'm not certain the examination and study for the examination are discriminators. But, the demonstration of commitment shown by studying for and taking the examination is what I look for.

- I don't see the value of any comprehensive exam for government certification. However, in the private sector, passing a comprehensive exam is the standard for attaining a professional designation. For example, CPA, bar exam, medical boards, etc. I'm not sure I see the real value of a comprehensive exam. My experience of being around folks preparing for NCMA certification is to just study to take/pass test. I'm not sure that requirement alone for NCMA certification equates to an instant professional.

- A comprehensive examination is important because it indicates the overall knowledge an individual has in contracting. It's one thing to know about a specific area like source selections, but every contracting professional should have a good general knowledge of all contracting areas. You have to be able to see the forest through the trees.

**Areas for Further Discussion:** Please answer the following question. You are not confined to the context of one particular certification program; it is possible that none of the available certifications contain the optimal requirement.

**1. In what way does requiring the completion of an examination strengthen, or fail to strengthen, a professional certification for the contracting workforce?**

**End Cycle 2(d).**

**Table 42. Civilian Responses to Delphi Cycle 2d**

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**In what way does requiring the completion of an examination strengthen, or fail to strengthen, a professional certification for the contracting workforce?**

*5 of 6 panelists responding*

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The [key] term is “professional”. If this is to be a professional field, education and certification is necessary. A certification without a test doesn’t compute as far as I am concerned. The test proves the knowledge. Without proof how can you certify a professional designation?

The examination strengthens the value of the certification and is consistent with other professions in that regard. As the body of knowledge changes, and it does change constantly, the value of the certification changes (diminishes). Re-certification becomes a necessary evil once you go down the certification road so you have to anticipate that. The more comprehensive the examination, the more value it lends to the certification.

I stand by my previous statement [during Cycle 1]. The primary benefit of a comprehensive examination is it gives credibility to the certification. If there is no exam, there is not confirmation that the individual has mastery of the material...only that the individual was in the classes or was at work for a specified period of time. For the certification to have credibility there must be a comprehensive exam and it must be possible to fail the exam. The professional certifications granted by AFIT in the past aren’t real prestigious. Everybody (well almost everybody) passes the classes and attaining the certification isn’t much of an accomplishment. The CPCM exam administered by NCMA, on the other hand, had a 60% fail rate in its early days. Successfully passing the CPCM is truly an accomplishment and is recognized as such by the professional workforce.

I see no significant way requiring an examination will strengthen the professional certification, since the process already requires a combination of education, training, and experience. When our professionals reach the highest level of certification...they will know how to go about executing the infrequent or less familiar [processes]. If there is any desire to use examinations, then do it appropriately at the specific training course level, or possibly consider the use of examinations in the waiver process only.

I tend to think that comprehensive examinations need to be incorporated into the APDP certification. Class attendance does not prove one is technically knowledgeable of the subject matter. Incorporate exams at the following levels: Level I – no exam; Level II – an objective multiple-choice exam; Level III – an in depth exam. Comprehensive exams, like educational credentials, relate to competence in industry; it should also apply in the Government.

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**Table 43. Military Responses to Delphi Cycle 2d**

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**In what way does requiring the completion of an examination strengthen, or fail to strengthen, a professional certification for the contracting workforce?**

*4 of 6 panelists responding*

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Completion of an examination is essential to the contracting community as we continue to build our professional reputation. First, it forces a person into intense preparation for the exam. That can only enhance a person's knowledge. Second, by passing the exam, it helps our community identify those who are dedicated to the career field. Third, it enhances the contracting community's reputation for professionalism. Just as the other professions have stringent controls on their profession, we must also.

An examination strengthens the certification by forcing the individual to commit to a career field. In addition, it causes the individual to spend a significant amount of time thinking about what it is they are involved in, to look at relationships between different functional specialties. I sat for two professional examinations: The first and most important was the PCO warrant board; that forced me to really learn my craft. The second, the CPCM, was an overview of the career field's current topics. I believe that if you're going to have a single examination that it should be more specific; a la the warrant board, and also bring in the general knowledge areas of the CPCM. After all, the goal is to demonstrate competence in the career field, not solely knowledge of the world and Washington's latest acquisition streamlining initiative...I think the current certification/staffing in the contracting career field is in for rapid change. The next generation is being trained in the IPT mode. The "senior functional specialist in the same cube" went away nearly ten years ago. The certification exam needs to look at functional expertise over the 'career field in context' type of exam that the CPCM relies on.

I don't think there is much value added in a comprehensive exam for professional certification in contracting. The emphasis should be on acquisition training courses, education, and experience. Reading the above comments, what strikes seems to be the feeling of shared pain. By making an examination difficult for a level of certification, it shows commitment to the profession to pass. I don't buy that premise. From my perspective, my professionalism and growth in my career field is based upon my training opportunities and varied experience; not studying some "school answers" to pass a test which bears little semblance to what I may be working on or exposed too.

A good analogy for a professional certification exam is a comprehensive, end-of-degree-program exam given by many universities. It's one thing to take all the courses over the years, but have you really retained the information and can apply it. A comprehensive test can determine if you still know the information and can apply it. The same goes for a required exam for a professional certification. I might have spent 4 years in contracting and taken 6 courses, but that doesn't mean I have retained the information. An exam could determine this. It's very important to determine a certain level of competency before giving someone a professional certification. Therefore, an examination would strengthen a professional certification for the entire contracting workforce.

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### **SECTION A - Formal Education**

While most respondents did not indicate a need for a bachelor's degree to enter the career field, there was a high level of agreement that a bachelor's degree should be required for certification. Respondents consistently referenced the "enhancement of professionalism" as reason to require a degree before granting professional certification. Although Contracting is not presently designated a "professional series" by OPM, the majority of respondents believe it is important for contracting personnel to maintain and extend their professional standing.

While agreeing that formal education is valuable to the workforce, and should play a role in the certification process, a few respondents did not go as far as requiring a bachelor's degree as a condition for certification. These respondents believe a level of formal education should be required, but that a complete degree program is not necessary.

*Recently, the National Defense Authorization Act for 2001 made changes to the qualification requirements for contracting personnel. Public Law 106-398 (Section 808), amended Section 1724 of title 10, United States Code to read as follows:*

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#### **Sec. 1724. Contracting Positions: Qualification Requirements.**

**(a) Contracting Officers** - The Secretary of Defense shall require that in order to qualify to serve in an acquisition position as a contracting officer with authority to award or administer contracts for amounts above the simplified acquisition threshold referred to in section 2304(g) of this title, a person must -

- (1) have completed all mandatory contracting courses required for a contracting officer at the grade level, or in the position within the grade of the General Schedule (in the case of an employee) that the person is serving in;
- (2) have at least two years of experience in a contracting position;
- (3)
  - (A) have received a baccalaureate degree from an accredited educational institution authorized to grant baccalaureate degrees, and
  - (B) have completed at least 24 semester credit hours (or the equivalent) of study from an accredited institution of higher education in any of the following disciplines: accounting, business finance, law, contracts, purchasing, economics, industrial management, marketing, quantitative methods, and organization and management, and

- (4) meet such additional requirements, based on the dollar value and complexity of the contracts awarded or administered in the position, as may be established by the Secretary of Defense for the position.

**(b) GS-1102 SERIES POSITIONS AND SIMILAR MILITARY POSITIONS -**

The Secretary of Defense shall require that a person meet the requirements set forth in paragraph (3) of subsection (a), but not the other requirements set forth in that subsection, in order to qualify to serve in a position in the Department of Defense in –

- (1) the GS-1102 occupational series; or
- (2) a similar occupational specialty if the position is to be filled by a member of the armed forces.

**(c) Exception -** The requirements imposed under subsections (a) or (b) shall not apply to a person for the purpose of qualifying to serve in a position in which the person is serving on September 30, 2000.

**(d) Waiver -** The acquisition career program board of a military department may waive any or all of the requirements of subsections (a) and (b) with respect to an employee or member of that military department if the board certifies that the employee or member possesses significant potential for advancement to levels of greater responsibility and authority, based on demonstrated job performance and qualifying experience. With respect to each waiver granted under this subsection, the board shall set forth in a written document the rationale for its decision to waive such requirements. The document shall be submitted to and retained by the Director of Acquisition Education, Training, and Career Development.

**(e) Effective Date -** This section, and the amendments made by this section, shall take effect on October 1, 2000, and shall apply to appointments and assignments to contracting positions made on or after that date.

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In other words, civilian employees and military members of similar occupational specialties will have to possess a degree, with a major or concentration in business, before they are granted entry into the career field, or before they move to a new position if they are already in the career field.

At this point, we can complete our discussion on the subject of formal education. It is apparent that certification requirements will have to be at least as restrictive as those requirements for entering the career field. Further discussion on the possible effects of these changes may be warranted but will have to be reserved for future research efforts, as it is beyond the scope of this study.

**Synopsis:**

- Formal education is valuable to the contracting workforce. Formal education enhances professionalism by providing a level of knowledge and exposing individuals to the academic process.

- Contracting personnel must possess a baccalaureate degree in order to enter the career field.

- Upon entering the career field, contracting personnel must meet additional requirements, including the achievement of a level of experience and the attendance of designated PCE courses, before being granted a contracting officer's warrant or professional certification.

**Question 1: Do you have any additional comments regarding the discussion summary and synopsis above?**

**SECTION B – Levels of Certification**

Many respondents support the current 3-tiered APDP certification process, but some are in favor of a single-level certification. Based on our discussion to date, the following comments present the group's support and criticism of multiple levels of certification:

**Support**

- Certifying at progressive levels provides intermediate goals for individuals entering the career field...increases commitment by building confidence along the way.

- Certification at graduated levels helps identify an individual's proven ability to date...helps pair the individual with an appropriate duty position.

- Certification at multiple levels aids employers in determining a potential employees level of motivation and commitment...individuals with a certain degree of experience and training can be expected to attain a certain level of certification.

- Multiple-level certification mirrors the natural progression of individuals... personnel begin as apprentices and eventually become contracting masters.

**Criticism**

top

- Certifying individuals at multiple levels decreases the credibility and prestige of the certification...offers a "consolation prize" to those lacking the ability to achieve certification honors.

- It is difficult to determine the certification level that should be required for a given



duty position since so many contracting positions require duties of widely varying levels of difficulty.

- True professions reserve certification for the most highly qualified personnel... clients do not want to be served by a lower level CPA, doctor, or lawyer...the title instills confidence and credibility because it is difficult to obtain.

**Question 2: How many levels (1, 2, 3, or more) should be included in a professional certification program for contracting personnel? Please provide support for your answer.**

### **SECTION C – CO Warrant vs. Certification**

One interesting issue arising from the first two cycles is the similarity between the requirements for obtaining a contracting officer warrant and those for certification. In 10 USC 1724, we see that individuals must meet education, experience, and training requirements to obtain a PCO or ACO warrant; likewise, certification requires a level of education, experience, and training. Based on the changes enacted by P.L. 106-398, individuals will enter the career field with a level of education and then progress in their training and experience to obtain a warrant or certification.

**Question 3: Should an individual be required to qualify for a warrant before being granted certification? At what level (for those supporting multiple-level certifications)?**

**Question 4: If not, should an individual be required to possess a certification before being granted a warrant? At what level (for those supporting multiple-level certifications)?**

### **SECTION D – Training**

Many respondents indicated that the current PCE training is inadequate. Most respondents stated that the level of difficulty at in-residence courses does not guarantee the attendee graduates with the desired degree of training. At the same time, most respondents still favor in-residence coursework over computer based training (CBT). One respondent recommended using CBT to furnish a level of knowledge before allowing an individual to attend an in-residence course.

**Question 5: Regarding the number of certification levels you selected in Question 2, what PCE courses or subject areas should be required at each level?**

**Question 6: Should all personnel be required to attend the same courses, or should a variety be offered for each subject area?**

**Question 7: What format of PCE (CBT, In-Residence, VTC, ...) should be required at each level?**

#### **SECTION E – Experience**

Most respondents indicated the current certification requirements for experience were problematic. While all respondents agree that varied experience is desirable, most did not suggest that a broad base of experience be a requirement because such a requirement would be very difficult to measure. Several respondents suggested using a method such as the enlisted OJT record, or Copper Cap training record, to ensure the quality of the experience obtained. Most respondents agree with using the measure of “years” to indicate an individual’s experience for certification, but these same respondents are concerned that the experience be relevant – what specific training occurs within a time of experience? One respondent did not agree with the measure of “years” and stated the experience requirement should be monitored by developing and tracking specific duty tasks at each level of certification.

**Questions 8: Using the number of levels of certification you selected in Question 2, what specific experience requirements do you propose at each level?**

**Question 9: How would you measure this experience to ensure the appropriate level of quality and relevance of the experience?**

#### **SECTION F – Waivers**

**Question 10: Which, if any, of the above requirements for certification would you be willing to waive? Under what circumstances?**

### **SECTION G – Examination / Re-certification**

Many respondents stated that a comprehensive examination increases the credibility of a certification program. Others asserted that individuals can be “taught the test” and that it is not a true indicator of professional development. At this point, there is no definable group opinion on the issue.

While many respondents agree that requiring re-certification ensures individuals continue to progress in their training and education, several respondents did not find value in the requirement. Some respondents state that requiring certification at multiple levels alleviates the need for re-certification. Others believe that individuals should be required to attend continuing education but that a formal reissue of the certification is not necessary. Two respondents indicated that the re-certification requirement is actually of more benefit to the certifying associations (keeps them in business and funded) than to the workforce. On 15 Dec 98, USD (A&T) issued a mandatory Continuous Learning (CL) policy for the DAWIA acquisition workforce.

**Question 11: At what level would you require individuals to pass a comprehensive examination before granting certification?**

**Question 12: Should an individual be allowed to retain their certification status if they do not meet the requirements of the Continuous Learning policy?**

**Question 13: What other requirements should be met in order for an individual to maintain their certification status?**

**End Cycle 3.**

Appendix R. Synopsis of Responses For Delphi Cycle 3

**Table 44. Responses to Delphi Cycle 3 / Question 1**

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**Do you have any additional comments regarding the discussion summary and synopsis above? 9 of 12 panelists responding**

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While I agree a bachelor's degree should be required to get higher levels of certifications, a bachelor's degree shouldn't be required to enter into the career field. Or, if it should be required, the degree requirement should be gradually implemented with experience being an acceptable alternative. I'm particularly sensitive to this because in my location it's very difficult to hire people who have degrees and 24 business hours. I think it's unreasonable to expect one day to not have to have a degree and the next day to have a degree.

Yes, I seriously disagree with *Public Law 106-398 (Section 808), amended Section 1724 of title 10, United States Code* which states must have undergrad degree before entrance into the career field. The primary conduit for enlisted membership into the operational contracting field is through cross training. The vast majority of these highly motivated and sharp individuals don't have a degree. The ability for AF contracting to meet wartime contingency requirements will be severely compromised. SAF/AQC has recognized this problem and is working a request for waiver to the provision for enlisted personnel.

I strongly believe that a degree is should be a requirement to enter the contracting career field. We have come to a point in the history of our career field that we need to turn the corner, take a stand, and make a degree the minimum entry requirement and build a successful career from there. We have been heading in the direction for the last 15 years or so. Let's continue that push. The one exception I would make would be for military enlisted. But in their case they will be specifically designated to deploy and should focus their training to meet that requirement.

Yes, the staff officer at AQ that let the language in the new Public Law slip through without bringing it to the attention of AQC [should] be shot.

*5 of the experts did not offer additional comments.*

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**Table 45. Responses to Delphi Cycle 3 / Question 2**

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**How many levels (1, 2, 3, or more) should be included in a professional certification program for contracting personnel? Please provide support for your answer.**

*9 of 12 panelists responding*

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The certification program should be 3 tiered. This provides enough little steps before getting the highest certification. It's important to have multiple steps to give people something to short for in the short term. If someone has to work 6 years to final get their first certification, you will probably lose a lot of people along the way. We have a bad enough retention/recruiting problem with our civilians and military and we don't need a certification program to make the problem worse.

The present DoD APDP graduated approach of three levels is effective. It rewards progressively the training and experience already completed. It further combines additional training and experience to provide the eventual result of a "contracting master."

I'm comfortable with the current three-tiered level of certification. This applies well within the different grade structures and responsibility associated with Gov. personnel system. Additionally, a single certification level for non-governmental personnel is also appropriate. It standardizes the level of expertise and knowledge across a spectrum (corporate arena), which doesn't have standardization.

I think the 3-level approach is a good one if the requirements for the levels are consistent and strictly adhered to.

After reading some of the comments above, I tend to agree we need to reserve the certification for the most qualified people. This will make it less confusing to those outside the contracting career what the certification means. I would also make getting a CPCM part of the certification. In other words, once a person becomes certified it means they are the absolute tops in the contracting career field and are entitled to man our most critical contracting positions. Levels one and two do really indicate much within the career field, and it certainly does not mean anything to those outside the career.

Three seems to be a good number. I believe people should be allowed to advance within their capacity. Having different levels give people incentive to continue to strive for advancement.

Concur with the statement that certification should be reserved for the highest level and therefore only one level of certification should exist. Having the second level of certification truly serves as a "consolation prize" for those either lacking in ability or motivation to attain the "professional" designation. The second level certification "CACM" is nothing more than a block checker for true professionals. When I look at qualifications and I see someone who is eligible for CPCM and has only attained CACM, I consider it a negative not a plus in evaluating the individual.

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**Table 45. (Continued)**

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**How many levels (1, 2, 3, or more) should be included in a professional certification program for contracting personnel? Please provide support for your answer.**

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I disagree with [two of the] points above. There are differences in the professions. Doctors have specialties, as do lawyers. They achieve advanced degrees, there is a hierarchy based upon past positions held, etc. We, as laymen do not see those distinctions since we are outside the career field. However, it is widely known and acknowledged that not all lawyers can argue before the Supreme Court, or all doctors can operate on your brain. In addition, it is well known who the doctors, lawyers, etc. are; but it's within the community. Yet, among doctors all have MD after their name and among lawyers they all use Esq.

Bottom line, stick with the three levels. The supporting comments are right on. The need to differentiate in experience and training, especially, in the early years of contracting training is important. Lastly, consider that we will be facing a huge influx of new people in the next five to ten years. We'll need to stratify them somehow and sort the fast movers, average and slow.

A single certification level is optimal. I tie certification to the same status as being granted an unlimited CO warrant. The warrant is the license to "operate" in the contracting world. It is granted (hopefully) only to those who have achieved the knowledge and experience necessary to function on behalf of the federal government. Similarly, one is certified as capable of operating at the ultimate level, or not. Lesser gradations are misleading and unnecessary.

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**Table 46. Responses to Delphi Cycle 3 / Question 3**

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**Should an individual be required to qualify for a warrant before being granted certification? At what level (for those supporting multiple-level certifications)?**

*9 of 12 panelists responding*

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*Three experts stated that certification should come before a warrant, supporting their answers with comments included in Table 46.*

No, you shouldn't tie the ability to get certified at different levels with the qualification for a warrant. While there is a close relationship between the two actions, in reality, you cannot qualify for a CO warrant without having met the minimum requirements for Level II certification. The qualification and granting of a warrant should be based upon organizational needs and workload.

No. A person should be able to obtain the highest certification without having to be a CO. However, in granting certifications being a CO should play a role. We still can maintain high certification standards without having a person being a CO in order to obtain a warrant.

No – Level I should be a training ground – no warrant at this level.

No, I don't believe so. There are some positions such as procurement analyst positions and price analyst positions that do not require a warrant. The individuals in these positions can still have the expertise and knowledge of a warranted individual and they should have the opportunity to gain the professional certification.

I believe these are different issues. Warrants are issued based upon need. Certification is issued based upon qualification. I may need a highly qualified contracting person but not a warrant. Where the confusion arose is that in most of our training days to be granted a warrant we had extensive OJT in preparation for a warrant board. But, these are different and you'd never get a good warrant board to meet just to determine if a person was qualified and then not issue the warrant.

Yes, absolutely. And only after a rigorous examination conducted through and by the individual's supervisory chain.

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**Table 47. Responses to Delphi Cycle 3 / Question 4**

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**If not, should an individual be required to possess a certification before being granted a warrant? At what level (for those supporting multiple-level certifications)?** *8 of 12 panelists responding*

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A certification should come before a warrant. A certification shows an individual's ability to meet some minimum requirements. In many cases, these minimum requirements and certification allows an individual to be hired into a specific job. This specific job will then require an individual to get a warrant. An individual should be able to get a warrant after they obtain their first certification. The warrant should be commensurate to their certification. For instance, an individual who just obtained their first certification should be given some type of limited warrant (i.e., small purchase, etc.). Once an individual has obtained their 2<sup>nd</sup> and 3<sup>rd</sup> certifications, then they should be given more authority in their warrant.

Yes. I think the certification should come before the warrant. Using the multiple-level approach; require Level I for warrants up to SAP and level II for warrants above the SAP. No difference for ACO or PCO warrants.

Yes, at a minimum, the person should have a Level II certification.

I think the type of Contracting Officer warrant should be tied to the certification level. Only Level IIIs should have unlimited warrants. A small purchase warrant would be appropriate for a Level I certification.

No. Assuming going to a single level certification, a person should be able to obtain a warrant without having the certification. However, being a CO should be an important part of getting a certification.

Yes. If there are three levels, Level II could be the starting place. Some commands have limited warrants. Level II would be a good place for a limited warrant.

No. The warrant is an on the job thing and indicates fitness for current assignment. The professional certification is an over and above and in addition to indicating fitness for current assignment, indicates individual development and motivation to advance beyond the current position.

In the DCMA a person must be certified level II before being granted a warrant. I think ESD and ASD did very well in granting their warrants before the certification business began. Other advanced contracting shops didn't board their people as well, which led to the certification process. So, you don't want to return to that kind of problem. By requiring a cert before granting a warrant you at least screen out the people unable to walk and chew gum.

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**Table 48. Responses to Delphi Cycle 3 / Question 5**

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**Regarding the number of certification levels you selected in Question 2, what PCE courses or subject areas should be required at each level?**

*9 of 12 panelists responding*

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If we take the wisdom of congress and section 808 as our guide, education and training akin to 24 hours of business would be a good starting place. Certainly contract law, contracting fundamentals, quantitative studies (read business statistics) and financial analysis are core courses that should be included. I also believe economics (little and large) and purchasing management are useful.

The current number of courses you have to take to get your APDP certification is adequate for each level of certification.

Use the present courses, but move law to Level I and add an elective for Level II:

Level I = Basics of Contracting, Principles of Contract Pricing, and Contract Law

Level II = Intermediate Contracting, Intermediate Pricing, and 1 elective

Level III = Executive Contracting and Management for Contracting Supervisors

I'm comfortable with the current breakdown of courses for the 3 levels of APDP certification.

I believe the course workload that is currently required is a good balance of basic skills at all levels if the employee is coming into the career field with a BA in Business.

Assuming one level for certification the following courses (or related course) should be required: CON 301 Executive Contracting; Acquisition Planning and Analysis; Program Management; Contract Admin (basic, intermediate, and advanced); Basic Contracting (intermediate and advanced); Negotiation workshop; Basic Pricing; Contract Law. I look at this as a long-term process that will take many years to reach the one level of certification. Of course this is in addition to having a four-year degree. I would even make getting a Masters degree part one obtaining the certification. Again, the certification should show the world that this person is one of the best in our career field.

First of all I still think classroom training is far superior to CBT. The eye-to-eye, give and take of a classroom increases learning. Level I – all basic FAR, Law. Level II – advanced learning in Law, Fiscal law, some management classes. Level III – advanced management; offer some electives that include other disciplines that may or may not be similar to 1102.

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**Table 48. (Continued)**

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**Regarding the number of certification levels you selected in Question 2, what PCE courses or subject areas should be required at each level?**

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I don't think the certification should be based on PCE courses attended/passed. I feel the certification should be based on a comprehensive exam and experience. If you pass the exam and have the requisite years of experience, you should be certified whether or not you have attended PCE courses. Likewise if you've attended all the PCE courses in the world and have not mastered the material well enough to pass the exam, you should not be certified. I feel the requirement for a minimum number of years experience is necessary to demonstrate that the individual has shown some ability to practice that which they learned in an academic environment. Knowing what to do in a detached academic/exam environment and actually recognizing the situation in real life and analyzing alternative solutions to solve a real problem are different skills.

Well, are we talking about base contracting, systems or ACO work? Probably a generic so...for a Level I how about a basic contract law course, a basic finance course, a basic contract admin course and a base level services course (to include a bit on A-76 studies). For Level II: two courses in pricing. The first centering on RFP/IFB preparation in both the commercial and the negotiated environment. A second pricing course focused on contractor developed rates and factors. Add a course on contract types, and an advanced contract administration course including a sections on the relationships between CLIN structures, SPS, DFAS and contract close outs. For Level III a course on program management, a course on issues in contract law and a course on current issues and trends in acquisition.

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**Table 49. Responses to Delphi Cycle 3 / Question 6**

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**Should all personnel be required to attend the same courses, or should a variety be offered for each subject area? 9 of 12 panelists responding**

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Each personnel should attend the same courses. The certification validates minimum qualifications of an individual. The only way to determine that everyone has minimum qualifications is to have them all take the same courses.

There should be a required core curriculum for all individuals (must include the four courses mentioned above) and electives for the rest.

All should attend the same courses with the obvious exception of the elective course in Level II.

One of the biggest complaints I've heard from my folks is the non-applicability of portions of the course. For example, case studies or course examples are built around weapon systems style buys or issues. For a large number of students from the operational contracting arena, the training lessons are lost because they don't see the applicability. Maybe there should be shreadouts of courses, which concentrate on systems or operational concerns.

It would be great if there were a large selection of courses to choose from, but from a practical matter it would turn into an administrative nightmare. It is hard enough getting the minimal amount of courses scheduled, all databases updated and correct people get the proper credit now.

Certification requirements should be specific as to what courses are needed and what would be allowed as a substitute. As long as there are strict guidelines, substitutes can be allowed.

Depending on the class – there should always be some basic classes, like FAR. However, as stated in 5 above a group of electives would be great.

Since I don't believe any courses should be mandatory, I would have to pass on this answer. If you need a response my logical response given my stand on course work is that a variety of courses should be acceptable.

There should be a certain minimum standard that all have to take. Would be nice if funding were available for people to take in-resident elective courses - that will be a tough sell however. I really think that a standard should be maintained to ensure consistent minimum standards across the department.

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**Table 50. Responses to Delphi Cycle 3 / Question 7**

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**What format of PCE (CBT, In-Residence, VTC, ...) should be required at each level? 9 of 12 panelists responding**

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In residence for the basic courses. Others can be taught via other means.

For the core courses, the PCE format should be in-residence. CBT or VTC cannot simulate class interaction. The interaction between classmates and instructor is so important.

Level I = Basics of Contracting (In-Residence), Principles of Contract Pricing (CBT), and Contract Law (VTC)

Level II = Intermediate Contracting (In-Residence), Intermediate Pricing (CBT), and 1 elective (method of instruction dependent on the course)

Level III = Executive Contracting (In-Residence) and Management for Contracting Supervisors (VTC)

The greatest source of learning comes from hearing real-life experiences and lessons learned from the instructor or fellow classmates. I endorse in-residence for all certification level courses.

Even though it is an expensive proposition, the most important learning experience is in residence. The learning from one another and the networking system one gains by going TDY to a course is just as important as the content of the course taught.

I prefer in-residence for all courses. But at least, the executive courses must be in residence. The benefit comes from meeting other professionals in the career field. However, for some of the basic course we should allow them to be taken by correspondence.

As stated above, I prefer in-residence. However, there could be a mixture. More VTC than CBT. Level I needs to be in-residence to acquaint new people to others ideas. Level II is not as critical. However, for advanced classes in Level III – interaction is very important.

Again, I don't believe that course work should be required. I do believe it should be encouraged and individuals made aware that completing the coursework will improve their knowledge and thus their chances of successfully completing the exam. However, I believe the exam should be so tough your chances of passing it without the PCE are very slim.

These courses should all be in resident. The learning comes from the interaction of the people; the CBT stuff isn't really working.

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**Table 51. Responses to Delphi Cycle 3 / Question 8**

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**Using the number of levels of certification you selected in Question 2, what specific experience requirements do you propose at each level? 9 of 12 panelists responding**

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For one level of certification I would opine that a minimum of seven years experience is optimal. Waiverable by local authority on case-by-case review.

Level I – 4 years; Level II – 6 years; Level III – 10 years

I would increase the number of years because so much of what you need to know in contracting is based on experience.

Use the present experience requirements.

I don't think it's unreasonable to establish a method such as enlisted OJT or Copper Cap to identify a specific knowledge base and task familiarization for each level. These could be identified readily with the proper resources, which I don't currently have.

Level I – 2 years; Level II - 6 years; Level III - 10 years; these are all minimum amounts of experience for each level.

Again, I'm tough on what the requirements should be. I believe in order to identify the tops in our career field, we must require years of experience, but they should be in different kinds of jobs. For example, so many years in systems, so many years at the HQ level, so many years in operational contracting, so many years in admin, etc. Again, we want to identify the leaders and decision-makers in our career. Someone who stays in one location will never obtain a certification. This is not a put down on the people who stay in one area. We need that. But those who are willing to grow and meet new challenges are the ones who get certified. We are looking at the top 20% or so who will eventually earn a certification. And that's OK. And that's why a certification will mean something.

Level I – little experience; Level II – 2 to 3 years; Level III – at least 5 years.

I think there should be one level of certification and the level of experience should be seven years. Why seven? Because that's my judgment on how long it takes someone to be well versed in the total contracting career field.

One thing I would NOT require at any level is a source selection, there simply aren't that many major ones around anymore. In fact, I'm not sure this is an answerable question. If we say that a person needs to have worked a protest, or done a contract restructure then we have to ensure we screw up a contract award so we generate a protest. The list clearly goes on. What if a person is working as an ACO and never writes a P mod? What if the person is a PCO and never negotiates an overhead rate? Someone smarter, with more time has to answer this one for you.

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**Table 52. Responses to Delphi Cycle 3 / Question 9**

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**How would you measure this experience to ensure the appropriate level of quality and relevance of the experience? 9 of 12 panelists responding**

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Local authority has final decision based on review of jobs held, performance levels, years in grade and other factors. No "one size fits all" rules.

One good way is the ways the enlisted sign off on their skill levels. In order to be a 3-skill level, you should be familiar with a certain number of tasks. The same goes with 5, 7 and 9 skill levels. You could do the same thing by saying if you have 4 years in contracting and looking to get your 1<sup>st</sup> level certification you should be familiar with the following areas (source selections, modifications, protests, etc.) You would need an individual at a higher skill level to sign off saying this individual's knows all these skills.

Define qualifying experience as equivalent to GS-1102 duties with increasing responsibilities from SAP for level I to procuring and administration beyond SAP for higher levels.

It would be up to the training certifier to ensure the identified tasks were completed and a sufficient level of performance accomplished to "sign-off" the task.

To measure this experience in calendar years is probably the only way.

By the number of years in different kinds of jobs as discussed above.

By time in service and relevance of experience. If being hired from outside the government relevance of experience could be used.

I don't think there is a way to measure appropriate level or quality for relevance. Any criteria you come up with can be worked around with some determined pencil whipping and puffery when responding to the application questions. Therefore I suggest the only criteria be length of service with a belief that if you're involved in the process for seven years at the GS-7 and above level, something had to stick.

I go back to the training folders required of all SAC contracting management officers. It was a good idea and it was reviewed during ORIs. A similar item could be prepared, obviously not all items could be completed (see response to question 8 above) but many items could.

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**Table 53. Responses to Delphi Cycle 3 / Question 10**

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**Which, if any, of the above requirements for certification would you be willing to waive? Under what circumstances? 9 of 12 panelists responding**

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Waive time requirement for the true fast burners. No waiver of education and training but allow interpretation of what counts as applicable. Must be local decision(s).

I would be willing to waive a degree requirement if an individual has an appropriate number of years of experience.

Only education similar to the waiver requirement found in "Sec. 1724. Contracting Positions: Qualification Requirements." "The acquisition career program board of a military department may waive education requirements with respect to an employee or member of that military department if the board certifies that the employee or member possesses significant potential for advancement to levels of greater responsibility and authority, based on demonstrated job performance and qualifying experience."

Waive the education requirement for enlisted.

The only waivers should be for hard to fill positions, which require a certain certification level. The waiver would only be good for the time the person is filling that position.

None. I want a very challenging process with strict requirements in order for a person to get certified.

I would not waive the requirement for experience time. Because time is the only criteria I would use on experience, I think it should be totally inflexible. I would be flexible in evaluating time in relevant acquisition positions other than just contracting. For instance, if an individual was not an 1102 for seven years but had served as a program manager for a significant program, not just a project, I would like to be able to review and waive the experience requirement.

I'd be willing to waive just about anything. I just hired a guy as an engineer. He used to be my contract lawyer (he didn't like lawyers...go figure), yet I'm currently required to send him to ACQ 201. Doesn't make sense, waivers can't be given out lightly but they should be available.

*One expert simply stated, "No waivers."*

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**Table 54. Responses to Delphi Cycle 3 / Question 11**

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**At what level would you require individuals to pass a comprehensive examination before granting certification? 9 of 12 panelists responding**

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Coincident with the warrant board examination and warrant granting decision.

I would have them pass an exam at every level of certification.

Depends on what certification you are talking about. If you are talking the current 3 level APDP system, then not at any level. A non-governmental org., such as NCMA, has established a comprehensive exam policy for its certification.

Level III certification should have a comprehensive examination tied to it.

Whenever the person is ready. However, by natural selection, a person will not be ready until taking courses and spending a certain amount of time on the job. Just like getting a CPCM, a person can take the test at anytime, but in order to have a chance to pass the test that person will have to have a certain level of knowledge, which can only come from taking courses and spending years in contracting.

I agree that certification at multiple levels is all that is necessary – no test.

I think there should only be one certification level for a professional designation. I have no problem with the three-level certification for qualification for positions in place today in DoD.

*Two other experts indicated they would not require an examination at any level.*

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**Table 55. Responses to Delphi Cycle 3 / Question 12**

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**Should an individual be allowed to retain their certification status if they do not meet the requirements of the Continuous Learning policy?**

*9 of 12 panelists responding*

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No, I think it's important to keep current in the career field. The career field has changed so much in the last ten years that if you didn't continually learn you shouldn't have your certification.

Yes. Can't remove certification unless we can clearly ensure the individual will be offered the training opportunities through their work centers.

No, the acquisition world changes so much, CL is mandatory to stay current.

No - keeping current with the changing acquisition field should be a requirement of the certification level.

No. Maybe place them in an "inactive" status until they complete the requirements to re-certify. The continuous learning requirements are not that tough to maintain.

No the continuous learning should be required to maintain certification. Without the CL requirement, there is no way of insuring the individuals do not stagnate.

Yes, look at me. Courses were available for my level of expertise when I was [in a MAJCOM-level staff position]. Since then, my organization hasn't had the funding and the courses are not there if the money was. Also, one unique thing about this career field is this: I knew more about contracting as a [previous grade] than I do now as a [current grade]; but, I know more about managing an acquisition organization now than I did then. As you go up in grade you become less technical and more a leader. If you do stay a technician you tend to narrow your expertise, you become an expert on one or two subjects because you're the staff guy assigned. But, you lose track on all the other sections of the FAR. So this question needs to keep that in mind.

*Two other experts simply stated, "No".*

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**Table 56. Responses to Delphi Cycle 3 / Question 13**

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**What other requirements should be met in order for an individual to maintain their certification status? 9 of 12 panelists responding**

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Local supervisory chain must agree to extending certification (this covers a realm of issues including performance measures, effectiveness, work habits, personal relationships, and a host of etc).

Revaluation of experience and relevancy

Continuous learning should be the only requirement. As I stated earlier, evaluation the quality or relevance of experience is too hard to do and can be too easily defeated by creative writing to be of any significant value.

Question assumes I agree that certification should be reexamined on a periodic basis. I don't therefore I only think working in the appropriate jobs is necessary to maintain certification.

*All other respondents indicated no other requirements are necessary.*

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## Appendix S. Delphi – Cycle 4 – Recommend Changes to Current Programs

In the two sections that follow, I have listed the current certification requirements for the APDP and NCMA (CPCM) programs. Please review these requirements and recommend any changes you believe could improve the programs.

### **Section I: Acquisition Professional Development Program (APDP)**

#### **Current Requirements.**

CAREER LEVEL	EDUCATION	EXPERIENCE	TRAINING
Entry Level (I)	<p><u>Have ONE of:</u></p> <p>Baccalaureate Degree;</p> <p>24 Semester Hours accounting, law, business finance, contracts, purchasing, economics, industrial management, marketing, quantitative methods, or organization and management</p> <p>10 years contracting experience as of 1 Oct 91</p>	<p>1 year in contracting</p>	<p>Basics of Contracting (CON 101)</p> <p>Principles of Contract Pricing(CON 104)</p>
Intermediate Level (II)	<p>Same as Level I</p> <p>(Desired) Graduate studies in business administration or procurement</p>	<p>2 years in contracting</p> <p>(Desired) 2 additional years in contracting</p>	<p>Intermediate Contracting (CON 202)</p> <p>Intermediate Contract Pricing(CON 204)</p> <p>Government Contract Law (CON 210)</p>
Advanced Level (III)	<p>Same as Level I</p> <p>(Desired) Masters degree in Business Administration or Procurement</p>	<p>4 years in contracting</p> <p>(Desired) 4 additional years in contracting</p>	<p>Executive Contracting (CON 301)</p> <p>Management for Contracting Supervisors (CON 333)</p>

*Note: Education requirements will likely change to require a baccalaureate degree AND 24 semester hours in business (based on the recent legislation)*

**Recommended Changes.** Please consider the comments generated during the previous cycles of discussion and then indicate the changes you now believe necessary to improve the APDP certification program.

**1. Number of Levels:**

**2. Education:**

(a) Level I:

(b) Level II:

(c) Level III:

**3. Experience:**

(a) Level I:

(b) Level II:

(c) Level III:

**4. Training:**

(a) Level I:

(b) Level II:

(c) Level III:

**5. Comprehensive Examination (Not a current requirement):**

**6. Re-certification (Not a current requirement):**

## **Section II: NCMA Certified Professional Contract Manager (CPCM)**

### **Current Requirements.**

FORMAL EDUCATION	RELEVANT EXPERIENCE	TRAINING	EXAMINATION
Bachelor's Degree	2 years experience in: procurement, legal, MIS/IT, inventory mgt, project mgt, production, R&D, marketing, QA, finance, business mgt	8 non-credit, certificate, or continuing education courses	Completion of CPCM exam

*Note. Formal education requirements are waiverable on a case-by-case basis if the individual possesses at least 2 years of college and 10 years relevant experience, while the experience requirement is waiverable if the individual possesses a bachelor's degree.*

The CPCM examination is an all essay test consisting of two sessions. The first session tests the individual's knowledge of general contracting principles, while the second session is concentrated in seven specific areas: legal; finance, economics, and accounting; production; contracting; logistics management; commercial purchasing; and state and local government procurement.

Re-certification is required every five years through the completion of a total of 60 hours of instruction, 10 of which must be within the 18 months prior to re-certification. If this continuing education is met within the five-year deadline, the examination need not be retaken.

**Recommended Changes.** Please consider the comments generated during the previous cycles of discussion and then indicate the changes you now believe necessary to improve the CPCM certification program.

**1. Number of Levels** (*Only one level of CPCM certification is offered; however, a separate certification (Certified Associate Contracts Manager (CACM)) is also available*):

**2. Education:**

**3. Experience:**

**4. Training:**

**5. Comprehensive Examination:**

**6. Re-certification:**

**End Cycle 4.**

Appendix T. Synopsis of Responses For Delphi Cycle 4

**Table 57. Recommended Changes to Air Force APDP Certification Requirements**

<b>Certification Element</b>	<b>Recommended Changes</b>
<b>Number of Levels</b>	No Change (9)  Two levels– <i>adopt the NCMA CACM and CPCM certifications as official DoD programs</i> (1)
<b>Formal Education</b>	<p><b>Level I:</b> No Change (6) Require Bachelor's Degree (2) Require Bachelor's Degree w/ 24 business hours (2)</p> <p><b>Level II:</b> No Change (5) Require Bachelor's Degree (1) Require Bachelor's Degree w/ 24 business hours (2) Require Bachelor's and some graduate study (1) Require Bachelor's; Desire Master's Degree (1)</p> <p><b>Level III:</b> No Change (3) Require Bachelor's Degree (1) Require Bachelor's; Desire Master's Degree (3) Require Master's Degree (3)</p>
<b>Experience</b>	<p><b>Level I:</b> No Change (8) Two years contracting experience (2)</p> <p><b>Level II:</b> No Change (5) Four years contracting experience (3) Five years contracting experience (1) Six years contracting experience (1)</p> <p><b>Level III:</b> No Change (4) Six years contracting experience (2) Eight years contracting experience (1) Ten years contracting experience (3)</p>

**Table 57. (Continued)**

<b>Certification Element</b>	<b>Recommended Changes</b>
<b>Training</b>	<p><b>Level I:</b> No Change (8)  Same classes; increase level of difficulty (1)  Add Contract Law course to Level I (1)</p> <p><b>Level II:</b> No Change (9)  Add elective (1)</p> <p><b>Level III:</b> No Change (10)</p>
<b>Examination</b>	<p>Do not add requirement for examination (6)</p> <p>Require comprehensive examination – <i>no specific level indicated</i> (2)</p> <p>Require successful completion of comprehensive examination for Level III certification (2)</p>
<b>Re-Certification</b>	<p>Do not add requirement for re-certification (6)</p> <p>Re-certify every two years by completing at least 40 hours of PCE per year (1)</p> <p>Re-certify every six years by completing at least 40 hours of PCE per year (1)</p> <p>Adopt the NCMA re-certification standard (1)</p> <p>Require re-certification for certification levels II and III – <i>no specific course requirements indicated</i> (1)</p>
<i>Numbers in parentheses indicate number of experts making recommendation</i>	

**Table 58. Recommended Changes to NCMA CPCM Certification Requirements**

<b>Certification Element</b>	<b>Recommended Changes</b>
<b>Number of Levels</b>	Keep single level program (9) Add a higher level certification for those with advanced degrees (1)
<b>Formal Education</b>	No change (8) Require Bachelor's degree with no exception (2)
<b>Experience</b>	No Change (5) Four years relevant experience (2) Five years relevant experience (2) Six years relevant experience (1)
<b>Training</b>	No Change (9) Add a requirement for applicant to have had a Contracting Officer warrant or an equivalent representation of responsibility (1)
<b>Examination</b>	No Change (9) Offer exam on demand at any time instead of only twice per year (1)
<b>Re-Certification</b>	No Change (10)
<i>Numbers in parentheses indicate number of experts making recommendation</i>	



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## Vita

Captain Ronald L. Tougaw, Jr. was born at the 75th TAC Hospital, Bergstrom AFB, Texas, and graduated from Rampart High School in Colorado Springs, Colorado. In November 1992, he enlisted in the United States Air Force and was assigned to the 12th Contracting Squadron at Randolph AFB, Texas where he served as a contracts manager in the Systems and Analysis, Commodities, and Services Contracting flights. In May 1996, he received a Bachelor of Arts Degree in Business Management from Texas Lutheran College in Seguin, Texas. He was commissioned as a Second Lieutenant in the United States Air Force on 6 December 1996, upon completing USAF Officers Training School at Maxwell AFB, Alabama.

Following his commission, he was assigned to the 17th Contracting Squadron at Goodfellow AFB, Texas. While at 17 CONS, he received two Contracting Officer warrants as Commodities Flight Chief and Assistant Construction Flight Chief; he also served in the Management Analysis and Services Contracting flights and as the International Merchant Purchase Authorization Card program coordinator. In August 1999, he entered the Graduate School of Engineering and Management at the Air Force Institute of Technology, Wright-Patterson AFB, Ohio. Upon graduation from AFIT, Captain Tougaw was assigned to the Aeronautical Systems Center, Wright-Patterson AFB, Ohio.

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<b>14. ABSTRACT</b>  This study examined the strategic goals that were the basis for the DoDs implementation of mandatory certification for individuals serving in the contracting career field of the acquisition workforce. The study then went on to enlist panels of contracting experts to assess the extent to which two of the available certification programs meet, or fail to meet, those goals. The research method employed to gather input from experts was a Delphi discussion technique. Two separate panels, one consisting of Air Force civilian employees, the other of Air Force active duty officers, participated in eight Delphi iterations facilitated by the researcher. The initial iteration required the experts to answer seven open-ended questions regarding certification requirements. Once the researcher confirmed the experts were focusing on the strategic value of certification, the subsequent iterations were used to identify and allow comment on areas of disagreement both within and between groups. The final iteration offered the panelists an opportunity to recommend changes to current certification requirements in light of the comments and discussion generated throughout the first seven iterations. Overall, the experts believed the NCMA CPCM to be a truly professional certification, indicative of an individual's professional status and level of development, while the Air Force's APDP certification process was seen as more of a tracking device for training and education rather than a program that enhances professional development.						
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