Canadian Forces Individual Training & Education System
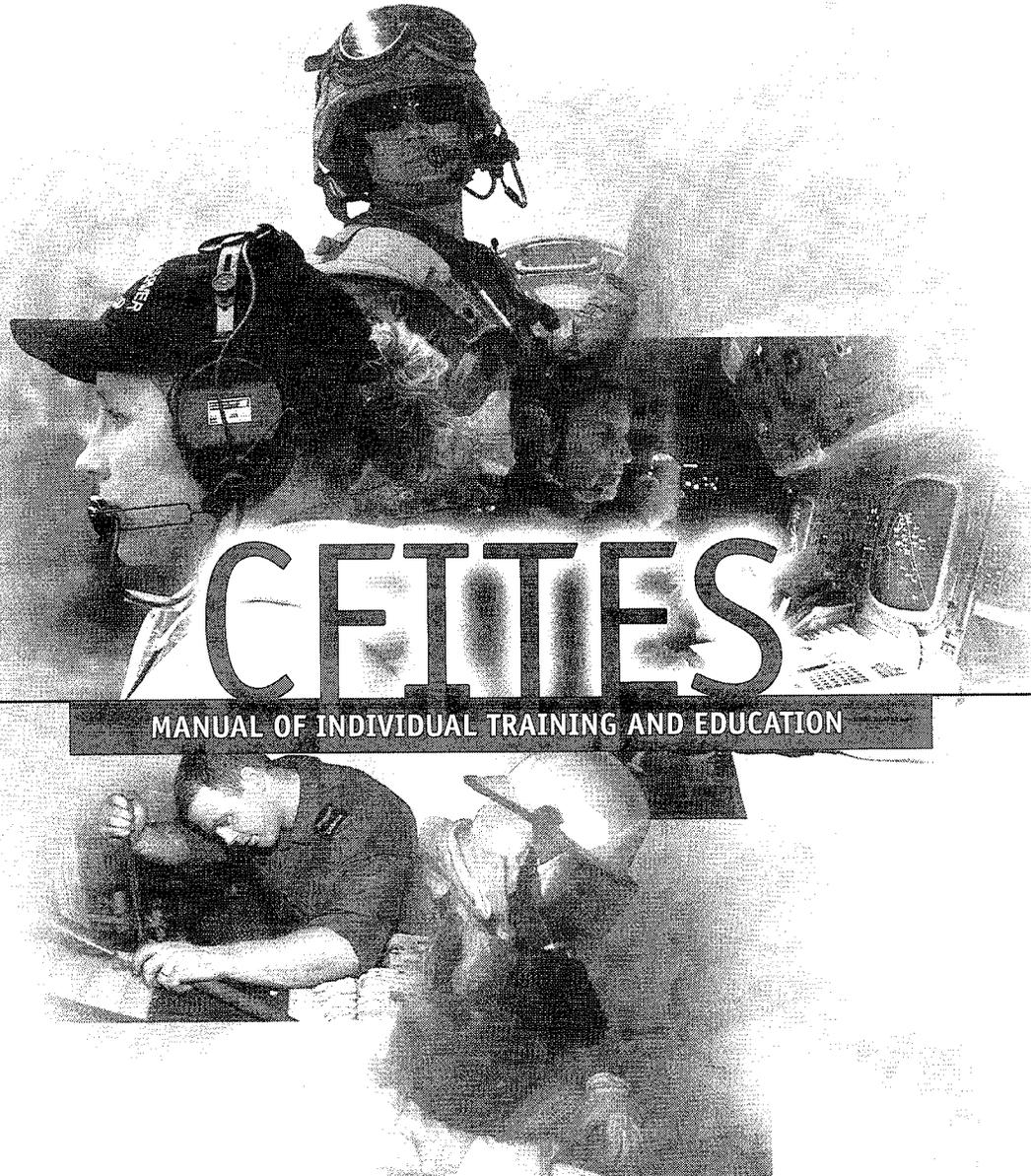
CFITES

MANUAL OF INDIVIDUAL TRAINING AND EDUCATION

Analysis of Instructional Requirements

FOREWORD

A-P9-050-000/PT-003, *Manual of Individual Training and Education, Volume 3, Analysis of Instructional Requirements* is issued on authority of the Chief of the Defence Staff.

This publication is effective on receipt and supersedes A-P9-000-003/PT-000 (*Preparation of Occupational Specifications*) dated 91-11-15, A-P9-000-004/PT-000 (*Preparation of Training Standards*) dated 92-07-31, A-P9-000-005/PT-000 (*Analysis of Tasks for Training*) dated 92-10-30, A-P9-000-006/PT-000 (*Writing of Performance Objectives*) dated 92-09-04 and A-P9-050-000/PT-003 (*Analysis of Instructional Requirements*) dated 98-07-31. This publication also incorporates and therefore supersedes 4500-27 (DRET 4-2) 30 July 1998 *DRAFT Education Objective Guidance*, and *Supplement to Volume 3, Interim Version 5*: Dated 23 Feb 01.

Suggestions for changes shall be forwarded through normal channels to National Defence Headquarters, Attention: Director, Training and Education Policy (DTEP).

CONTENTS OF MANUAL OF INDIVIDUAL TRAINING AND EDUCATION

The *Manual of Individual Training and Education* is a series of publications that provides guidance on the implementation of the Canadian Forces Individual Training and Education System (*CFITES*). The series consists of the following volumes:

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INTRODUCTION

Background

1. Canadian Forces policy for individual training and education (IT&E) states that IT&E activities shall be conducted in accordance with the management model known as the Canadian Forces Individual Training and Education System (CFITES). The *Manual of Individual Training and Education* provides guidance on the CFITES in a series of interrelated volumes, each focusing upon a different aspect of the system.

Purpose

2. This volume of the *Manual of Individual Training and Education* is designed to guide Managing Authorities (MAs) in the analysis of IT&E requirements.

Overview of CFITES

3. For an introduction to and description of the CFITES, see Volume 1, *CFITES Introduction/Description*. As shown below, Analysis is the first phase of the six-phase CFITES Quality Control model.

Figure 1: CFITES Quality Control Model
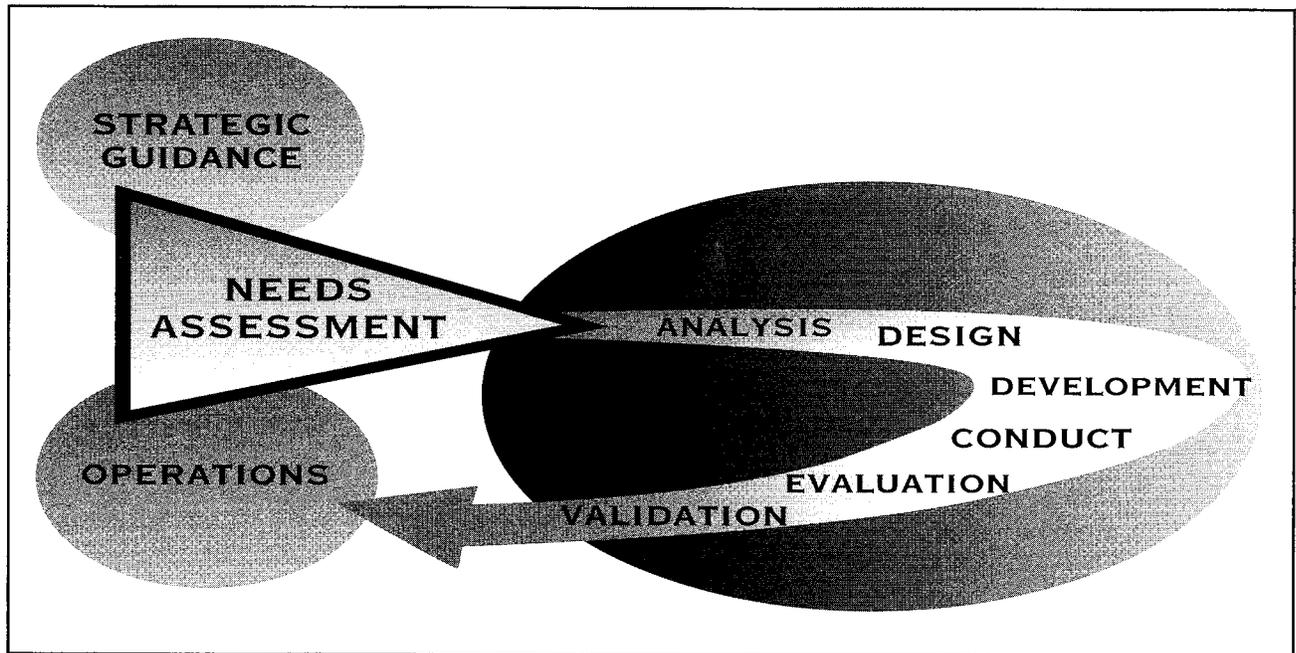
Overview of Analysis Phase

4. The activities of the Analysis phase are undertaken when either a needs assessment, driven by adjustments to strategic guidance, departmental objectives and goals, or operational requirements, has determined that an instructional programme is required to meet a performance deficiency. Analysis may also take place when an occupational analysis or a validation report (phase 6 of CFITES) results in changes to specifications. For instance, on completion, or as part of the Occupational Structure Implementation Plan (OSIP) and/or Occupational Specification Validation Board (OSVB) Record of Proceedings, a Managing Authority (MA) will be advised that changes have been approved to an occupational or specialty specification. A qualification standards writing board (QSWB) will then be convened to produce new training and education control documents, if required. Alternately, recommendations may be made to change specifications or job descriptions and associated doctrine.

5. The purpose of the analysis phase is to specify the required training and education outcomes in terms of essential on-job performance. This type of analysis requires input from MAs, end-users, subject matter experts and training development specialists. The analysis phase involves examining and interpreting a variety of inputs, as described in Table 1, to identify, select and organize tasks for training and education, and may result in the production or amendment of a qualification standard (QS).

6. **The Analysis Process.** The Analysis phase comprises three essential processes that are described in parts 2, 3 and 4 of this volume. The inputs, processes and outcomes of this phase are shown in Table 1.

Table 1: Overview of the Analysis Process

OPI	DEPARTMENTAL AUTHORITY (DA) & MANAGING AUTHORITY (MA)
INPUT	• Needs Assessment • Departmental Direction • Lessons Learned/After Action Reports • Branch/Corps Advisor input • Validation Report(s) • Occupational Analysis (OA) • Approved Revised Specifications
Note: In this document specifications include General Specifications (GS), Occupational Specifications (OS) in the form of Integrated Occupational Specifications (IOS) or Job Based Specifications (JBOS), and Occupational Specialty Specifications (OSS). Environmental requirements are part of GS.	

Table 1: Overview of the Analysis Process

OPI	MA APPOINTED SUBJECT MATTER EXPERTS & TRAINING DEVELOPMENT SPECIALISTS	
QSWB	**Process for Training**	**Process for Education**
PROCESS	**Review reports, specifications, guidance documents** • Confirm new or revised training requirement to meet knowledge, skill or attitude deficiency **Analyze tasks** • Confirm need for training for each task • Select tasks for training • Prioritize tasks for training • Organize the selected tasks **Specify Performance Objectives** • Define the outcomes in terms of graduate performance on the job	**Review reports, specifications, guidance documents** • Confirm new or revised education requirement to meet knowledge or attitude deficiency **Analyze instructional requirements** • Confirm need for instruction • Select knowledge/attitude elements for instruction • Prioritize instructional elements • Organize instructional elements **Specify Education Objectives** • Define the instructional outcomes in terms of graduate performance or capability
OUTPUT	• Training Task List • No-Train Task List • Rationale for selection/rejection • Proposed Instructional Strategies • Qualification Standard	• List of instructional topics/elements • Elements not requiring instruction • Rationale for selection/rejection • Proposed Instructional Strategies • Qualification Standard

Inputs — Specifications & Reports

7. Most IT&E in the CF is based on specifications, which are a principal component of the Military Occupational Structure (MOS). Specifications describe the job performance for all CF occupations. There are three types of specifications associated with the MOS:

   a. General Specifications (GS) for Officers and Non-Commissioned Members;

   b. Occupational Specifications (OS); and

   c. Occupational Specialty Specifications (OSS).

8. These are described in the *Manual of Military Occupational Structure* (A-PD-055-001/AG-001, A-PD-055-002/PP-00,and 002 (OSs), and A-PD-055-003/PQ-001 (OSSs)). Each Occupational Specification has its own Military Occupational Structure Identification (MOSID). There are several occupations represented in an OS reflecting the three components: Special Force (Spec F/Mobilization), Primary Reserve (P Res) and/or Regular Force (Reg F). Each of the occupations in the OS may be further divided into one or more sub-occupations. There are some Reg F occupations that do not exist in the P Res and there are some P Res only occupations, (e.g., Naval Control of Shipping, (NCS)).

9.   As depicted in the following table, General and Occupational Specifications are drafted and controlled by NDHQ, Directorate of Military Human Resource Requirements (DMHRR). Although MAs draft environmental requirements, OSSs, SPQRs and PGQRs, they too are controlled by NDHQ/DMHRR. The associated control documents which are used for training and education purposes are developed and controlled by the designated Managing Authority (MA).

Table 2: IT&E Control Documentation

SPECIFICATIONS	OPI	MAY RESULT IN	CONTROL DOCUMENTS
GS - OGS & NCMGS - includes Environmental Requirements (ER)	NDHQ / DMHRR ERs drafted by ECs	Basic & Advanced IT&E	NCMPD — DP 1-5 QSs OPDS — DP 1-4 QSs
OS (IOS or JBOS)	NDHQ / DMHRR	Training and/or Education	QS
OSS (SPQR)	NDHQ/DMHRR Drafted by ECs/MA	Training and/or Education	QS or Out-service course
OSS (PGQR)	NDHQ/DMHRR Drafted by ECs/MA	Education	Out-service programme of studies

Note 1: *The generic term occupational specification (OS) will be used to refer to IOS and/or JBOS formatted specifications throughout this document.*

Note 2: *Normally the MA is responsible for the Analysis and Validation components and the IT&E establishments are responsible for the Design, Development, Conduct and Evaluation of training and education. This process may vary, depending on the resources of the MA.*

10.   **Specification Versus Qualification Standard.** A specification is not intended to be a qualification standard for training and education purposes. An OS exists to accurately reflect the complete performance requirement and may therefore include tasks that do not require instruction; however, all tasks in an OSS may require instruction. Consequently, the IT&E requirement is often a portion of the overall performance requirement, and hence the need for QSs.

11.   Specifications are generally produced following an occupational analysis (OA). As part of the OSIP, the MA will convene QSWBs to translate the specification into a QS which is the primary directive used by training establishments to design, develop, conduct and evaluate training and education. Specifications exist in a hierarchical structure, as illustrated in Table 3. A basic description of the OA process, including OSIPs and OSVB, and the procedures for drafting OS and OSS as well as SPQRs/PGQRs are provided in Annex B.

Table 3: Hierarchy of Specifications

LEVEL I	Officer General Specifications (OGS) Non-Commissioned Member General Specifications (NCMGS)	• describe the duties, tasks, skills and knowledge that are common to and required by all military members • in addition, the general specifications identify unique requirements for each of the environmental elements; these are known as Environmental Requirements (ER), and they identify those duties and tasks that all personnel must be capable of performing for employment in sea, land or air
LEVEL II	Occupation Specifications (OS) (IOS/JBOS formats)	• describe the specific requirements for each military occupation
LEVEL III	Occupational Specialty Specifications (OSS)	• reflect a set of unique tasks, skills and knowledge required to perform a specific job, performed by one or more occupations, for which not all personnel in those occupations are trained

Note: To avoid redundancy and duplication, duties and tasks which appear in a higher level specification will not reappear in subsequent level documents, unless there is a justified requirement for a specific, higher level of knowledge or performance associated with that duty or task.

12. **Implementation.** It is assumed that the processes of the Analysis phase will be implemented in a manner which is consistent with the nature and scope of the requirement under consideration. As indicated above, a QS board, acting on behalf of the appropriate MA, will analyze the available information such as specifications and occupational reports, to produce one or more QSs.

Qualification Standards Writing Boards

13. **Definition.** For the purpose of this volume, the term qualification standards writing board (QSWB) means a group of qualified personnel including subject matter and training development experts, assembled under authority of the designated MA for the purpose of producing a QS. The board accomplishes this mission by reviewing all relevant documentation including needs assessment findings, validation and OA reports, then performing task analysis and writing performance or education objectives.

14. **Reasons for Convening.** A QSWB is convened by the MA to ensure that all agencies affected by a prospective IT&E programme have input into the preparation of the QS. Generally, a board is not convened when changes to an existing QS are minor. The MA staff can make such changes with input from other agencies as necessary. A QSWB is convened when:

a. a needs assessment indicates a new or significantly modified IT&E requirement resulting from new or amended specifications, equipment acquisition, policy, strategic guidance, or departmental objectives; or

b. a validation indicates serious discrepancies between a job and the existing QS; or

c. a user requests review of an existing QS because significant performance problems among graduates have been identified.

Note: A sample of a QSWB convening order is provided in Annex C.

15. **Suggested Composition.** The type, scope and extent of the prospective IT&E programme determine the composition of the board. A board should include representatives of all agencies concerned, as well as subject matter and training development expertise. Ideally all board members will have a direct interest in the eventual QS as instructional designers, employers of graduates or subject matter experts (SMEs). The table at Annex D suggests the composition of a QSWB and the roles of its members.

16. **Preparation of Members.** Board members should be selected and prepared so as to ensure that an effective QS is developed. Members should have a working knowledge of CFITES procedures either through formal training or through study of this manual. The provision of thorough briefings by the chairperson, MA staff and a Training Development Officer also help to ensure effectiveness. SMEs should be chosen carefully and used to provide complete and accurate information on the performance requirement. Knowledgeable SMEs are personnel who have performed all of the core occupational jobs at their current rank level and have the requisite hands-on experience. SMEs should not be over-ranked, that is, they should generally consist of members who have the greatest immediate familiarity with the specific job.

17. **Assembling Supporting Material.** The first process in the Analysis phase, and the first task of the QSWB, is to review all relevant documentation in order to fully understand the performance issue. All relevant documentation should be made available for use and reference by the board, preferably well in advance of board assembly. The essential document is the performance requirement description, usually an approved specification. Other documentation that is frequently used by standards boards is listed in the following table.
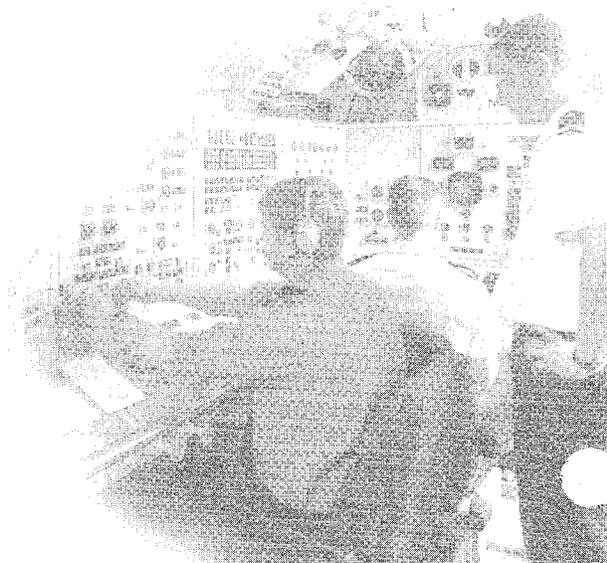
Table 4: Supporting Documentation for QSWB

DOCUMENTATION	COMMENTS
OGS or NCMGS	General military tasks are sometimes a component of a performance requirement, but these tasks do not need to be retrained, unless a higher level of skill or knowledge is required.
Existing Occupational Specification(s)	To establish continuity and eliminate duplication
Related qualification standards	To establish continuity and eliminate duplication
Related Occupational Specialty Specifications	To establish continuity and eliminate duplication
Doctrinal and technical publications	To provide accurate references for PO conditions and standards
Occupational Analysis data including OA reports, OSVB Record of Proceedings, OSIP	To assist in determining tasks requiring instruction, and to ensure that unnecessary revisions are not undertaken
Validation reports	To ensure that recommendations are considered/implemented
Orders, directives, instructions, main references, etc.	Standard Operating Procedures (SOPs), command orders, Allied/NATO standards relevant to the performance requirement
Manual of Individual Training and Education, Volumes 1, 2, and 3.	To guide board proceedings
Manual of Individual Training and Education, Volumes 1, 2, and 3.	To guide board proceedings

18.   **Chairperson's Briefing.** The Chairperson's briefing, and the briefings by other staff, are an important aspect of the preparation of the board members. The following table suggests the main points of the briefing.

Table 5: Content of Chairperson's Briefing

CONTENT / ITEM	COMMENTS
Objective of board	To prepare required qualification standard, and to staff the necessary recommendations for required changes to the related specifications, policies, doctrine, and procedures, etc.
Scope of responsibilities	The performance requirement to be addressed: for example, the requirement described in an occupational specification, or a requirement resulting from new equipment or policy
Constraints	All current policies, procedures, practices that apply, as well as specified training limitations such as maximum duration, use of simulation to conserve ammunition or to ensure safety, and modularization for R Res.
Processes	Review relevant documentation and associated needs assessment, if applicable, analyze tasks, write performance objectives, and draft QS
Roles and responsibilities	Of individual members and advisory staff
Agenda, milestones	Plans for completion
Discretionary powers	Powers of the board relative to: • Discrepancies in specifications (**Note:** *Major change requests are unusual and not supported outside the OSIP process. Boards should consult with DMHRR before any changes are made.*) • Anticipated policy changes • Registered concerns of user
Procedures	For resolving issues beyond the board's discretion
Need for comprehensive record	As an audit trail of discussion, decisions, action, recommendations to higher authority

THE PROCESS — REVIEW RELEVANT DOCUMENTATION

Examining Performance Requirements

19. **Primary Documentation.** The first step in the Analysis phase that the members of the QSWB will perform is to review the relevant documentation, including reports from OAs and needs assessment findings (described below) to ensure that the performance issue is well understood. The primary documentation is the performance requirement description, generally provided in the form of a specification, and the needs assessment recommendations. In reviewing the performance requirement, the standards board must ensure that they gain an understanding of the complete requirement. It is therefore important to consider not only the specific tasks but also the general context in which the tasks will be performed and the level of proficiency required. In reviewing the recommendations, the board should gain an understanding of why training or education is required and whether other activities should be undertaken in support of the proposed instructional programmes.

20. **Related Documentation.** In addition to studying the performance requirement documentation and needs assessment recommendations, the standards board should review any related documentation. This may include reviewing related qualification standards to ensure continuity and to avoid duplication. The board may also wish to consult with the OA analysts responsible for producing the data. The board should review data and documentation used or produced during the needs assessment, such as Occupational Analysis (OA) reports, Occupational Specification Validation Board (OSVB) Record of Proceedings and/or the Occupational Structure Implementation Plan (OSIP). The primary reason for consulting the analysts and these data, is to ensure that the intent of the MA, Branch Advisors and SMEs who were responsible for completing the documentation are fully understood, and to avoid unnecessary revisions, after the fact. The board should also consult any associated technical manuals, policy documents, and human factors engineering studies associated with new equipment and weapons systems projects. Finally, it should also be noted that the authority to train derives from the specifications; they are legal documents stating job requirements and permitting personnel to be recruited, trained and paid. Therefore, it is of the utmost importance that any required changes be properly documented and any recommendations for changes be staffed for approval before final implementation.

21. **New Requirements.** A new requirement, as identified in the needs assessment, may not be covered by existing specifications. New equipment acquisition, legislation or policy changes, for example, may generate a performance requirement and a subsequent need for IT&E before the requirement can be incorporated into the appropriate specifications. In such cases, the QSWB must work with the performance requirement description (e.g., a task or knowledge list, or mandated program guidelines) provided by the sponsoring agency, and approved by the DA and MA. It is the responsibility of the

sponsoring agency/MA to advise the OPI for the MOS, DMHRR/PMO MOSART, of any change in requirements that should be incorporated into existing specifications. If an OSS is created it must also be staffed for approval, to DMHRR/PMO MOSART.

Needs Assessment Findings

22. In this manual, the term *"needs assessment"* is used to describe the front-end activity through which a sponsor, such as a MA, Command or Group examines a performance issue — an apparent difference between the present and desired capabilities of personnel. Performance issues may stem from innovations such as new equipment acquisition and policy changes, or from perceived performance problems, or from opportunities for improvement. Needs assessment is a systematic effort to define the problem, identify the causes and propose the most effective solution. The common response to a perceived need for performance improvement is to recommend additional training or education. However, another management solution may be possible, such as job restructuring, modifications to recruiting criteria or a communications programme, to name just a few. The solution may involve a combination of several types of intervention, only one of which is training and/or education. Needs assessment ensures that costly instructional programmes are not developed when other solutions are more appropriate. Needs assessment is fully described in Volume 2 of this series, *Needs Assessment.*

23. **Needs Assessment as Input to Analysis Phase.** The Analysis phase depends upon a clearly defined need for an IT&E programme. From the perspective of a QSWB, the important outcomes of needs assessment are:

   a. a description of the performance requirement; and

   b. a substantiated and MA approved recommendation for training or education.

24. **Ensuring Validity of Requirement.** Due to the significant development time and cost involved, a requirement for a formal instructional programme must be justifiable. Therefore, before convening a QSWB, or undertaking activities to develop a QS, the MA must be certain that a needs assessment was conducted and it indicates there is a skill and knowledge gap for which training and/or education is the appropriate solution. If a needs assessment was not conducted, the MA should not proceed with training and education documentation until the need has been reviewed and justified. It should be noted that the documentation provided by the sponsor may or may not be identified as a "Needs Assessment Report". It is up to the MA to determine whether the need for an instructional programme has been established through adequate front-end analysis.

25. A requirement for IT&E is considered valid if:

   a. the performance requirement has been clearly defined, for example in an occupational specification or specialty specification; and

   b. the recommendation for an instructional programme is based on an analysis of the deficiency, its causes and potential solutions.

26. Needs assessment may appear to be very similar to the analysis phase at the beginning of the CFITES Quality Control System. However, upon entering the analysis phase, training or education has been prescribed as the solution to the performance problem. *Analysis is the process of examining training and education needs to determine the outcomes of instruction.*

27. **Summary — Review Relevant Documentation.** The outcome of the first process of the Analysis phase, reviewing relevant documentation, is a confirmation of the need for an IT&E programme through a clear understanding of the performance issue. More specifically, the QSWB should know:

a. why an instructional programme is needed;

b. what duties and tasks make up the performance requirement;

c. what fundamental skills, knowledge and attitudes enable performance of these duties and tasks; and

d. when the tasks, skills and knowledge are required.

ANALYZE TASKS

Overview of Task Analysis

28. **Definition of task analysis.** Within the CFITES, task analysis is the process of examining and interpreting a performance requirement to determine which tasks require instruction, and to prioritize and organize tasks selected for instruction. The QSWB conducts task analysis after reviewing all relevant documentation.

29. Since effective task analysis depends on the availability of a documented performance requirement, the board cannot fulfill its mission without a specification. If a specification does not exist, it is recommended that before proceeding further, the board through the MA, request DMHRR to produce an OS. However, with authorization from the MA, the board can draft an OSS (if appropriate) based on the needs assessment, task list or other documents describing the unique performance requirement.

30. **Recommended Procedure for Task Analysis.** The following table summarizes the recommended procedures for conducting task analysis to produce readily identifiable performance objectives. These procedures are fully explained in the subsequent pages.

Table 6: Steps in Task Analysis

STEP	ACTION	INPUT
Prepare for Task Analysis	Review the occupational specification and, if available, OA data, or associated needs assessment documentation. Identify jobs, duties, tasks and task elements. Revise, if necessary, and authorized by MA/DMHRR. Temporarily ignore knowledge statements. These will be considered only if Education Objectives are required (as discussed in Part 4).	Familiarity with scope and complexity of job(s). Definition/interpretation of task and required levels. Recommendations for amendments to OS, if required.
Select tasks	Identify tasks that require instruction. **Note:** *A task requires training/education if it is new to the target population, or if it involves new/increased knowledge or a different performance context, or if new factors affect its performance, such as a higher skill level.*	List of tasks selected for training/education. List of no-train tasks. Rationale for selection/ rejection.
Prioritize tasks	Determine extent of need for instruction, and provide rationale for decisions. **Note:** *Determine the degree of proficiency for each task, if there is more than one level across the selected jobs. If the training level will be lower than that required for job performance, note the training limitations and indicate that proficiency can only be achieved through additional on-the-job training and experience.*	Strategy — recommended method of qualification, at the global level, e.g., in-service or out-service formal course, on the job training, distributed learning (see Note).
Organize tasks	Group tasks, defining links among them.	Scalar

Note: *Instructional strategies are determined during the instructional analysis segment of the design phase.*

Preparation for Task Analysis

31. Prior to commencing the task analysis process, the board should become familiar with the specification and if available OA data. The specification and related documentation should be reviewed to identify jobs, duties, tasks and task elements. Before conducting task analysis, it is necessary to understand how work is structured and where tasks and other components of work fit within this structure.

Structure of Work

32. The following diagram illustrates the structure of work using MOS terminology.

Figure 2: Structure of Work
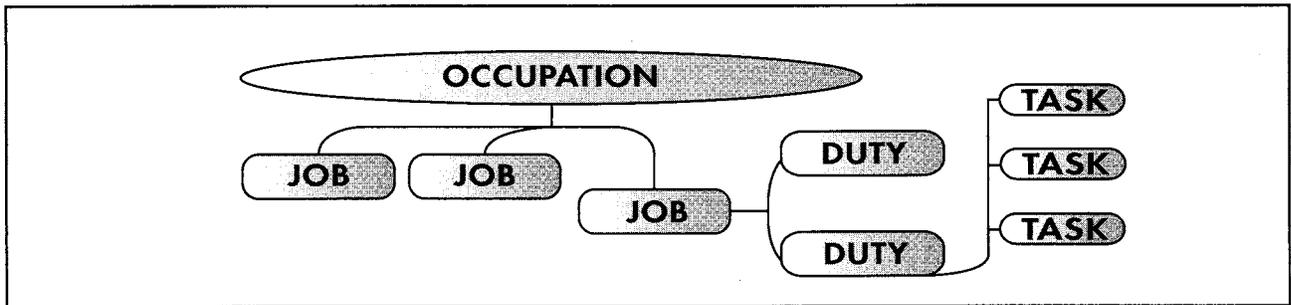
33. **Components of Work.** Table 7 provides abbreviated definitions of each of the components of work and examples. For detailed explanations of these concepts refer to the *Manual of Military Occupational Structure* (A-PD-055-001/AG-001).

Table 7: Components of Work

TERM	DEFINITION	EXAMPLES
Occupation	Grouping of related jobs with common duties and tasks, requiring similar qualificationa	• Supply technician • Pilot • Infantryman
Job	Duties and tasks performed by one or more members	• Storesman • CC 130 pilot • APC driver
Duty	One of the job incumbent's main activities, or a grouping of closely related tasks	FOR APC DRIVER • APC operation • APC maintenance
Task	A discrete unit of work performed by an individual, a logical and necessary part of a duty	FOR APC DRIVER (Duty: APC maintenance) • Check road wheels • Check lubrication • Replace track pads

34. **Duty.** Duties are of significance to standards boards because they represent the major activities in the work performed by most members of an occupation.

35. **Tasks.** For the purposes of this manual, the term task includes any substantive aspect of job performance that contributes to an operational or Departmental requirement. The term therefore, covers a wide range of performance types, from highly specific, concrete tasks such as operating a piece of equipment to complex, less tangible tasks, such as leading subordinates.

36. **Performance Requirements.** The core of a performance description is the list of duty areas and tasks that make up the requirement. These requirements are of primary concern to the training analysis and design teams because they form the basis for the qualification standard and subsequent training/ education plan. The performance description should also indicate critical supporting elements such as skills, knowledge and attitudinal factors, that provide insight into the scope and difficulty of the tasks which may in turn influence the training strategies, methodologies and content.

Supporting Elements

37. **Definition.** Supporting elements are the broad areas of skill, knowledge and attitude that are considered fundamental to one or more tasks, duties or jobs. They are enablers of the required performance, rather than ends in themselves. Supporting elements may be categorized into three types: skill, knowledge and attitude. The following table defines each.

Table 8: Types of Supporting Elements

TERM	DEFINITION	EXAMPLES
Skill	A mental or physical activity which requires a degree of proficiency achieved through practice	Calculating costs, Analyzing information, Firing service rifle
Knowledge	Theoretical or practical understanding of a subject that enables performance	Comprehension of regulations, Application of safety procedures
Attitude	A deeply held opinion or conviction which underlies or motivates behaviour	Concern for well-being of subordinates, Respect for rights of individuals

38. **Identifying supporting elements.** Supporting elements should be included in performance requirement documentation when they are an essential part of the overall requirement. Attitudinal elements are usually identified or implied in the job requirement and work environment sections of specifications. When analyzing a new requirement, qualification standards board may need to identify important supporting elements that have not been included in the performance description. Board members are expected to draw upon their subject matter expertise to ensure that all critical knowledge, skills and attitude elements are identified.

39. **Considering supporting elements.** The board reviews supporting elements to understand the scope and difficulty of the tasks listed in the performance requirement. This will assist in prioritizing tasks, and in writing performance objectives. The skill and knowledge elements provided in the specification are considered primarily in the CFITES Design phase as part of the instructional analysis component.

40. **Levels of proficiency.** A well-defined task description provides an indication of the degree of expertise required. The level of proficiency needed for a given task reflects the circumstances of the job and will affect the type and amount of instruction required. Specifications identify task, skill and knowledge proficiency levels for each job using a five-point scale as depicted in Table 9. The required level of proficiency is linked to developmental periods that vary across occupations, but generally range from beginner to intermediate to expert with responsibility for the performance of subordinates.

41. If a task, skill or knowledge statement applies to a job(s), a proficiency level between 1 and 5 will appear in the applicable job column to indicate the level of proficiency and degree of knowledge required. With respect to knowledge elements, in the majority of cases the minimum required degree of knowledge to support independent performance is level 3. Higher degrees of knowledge generally develop as a result of experience and advanced study. For tracking purposes, when knowledge and skill statements can be directly related to task statements they share the same common letter identifier as the task-duty area in which the tasks are located. Those statements that apply across several duty areas are not preceded by a prefix and are listed following the last duty area. These knowledge elements may, if required, form the basis for Educational Objectives.

Table 9: Task/Skill and Knowledge Proficiency Levels

TASKS/SKILLS		KNOWLEDGE
DEFINITION	PROFICIENCY LEVELS	DEFINITION
The level of proficiency required to perform parts or elements of duties and tasks under continuous supervision.	1	An awareness of the basic definitions and concepts associated with a topic or a body of knowledge.
The level of proficiency normally required to perform duties and tasks under supervision.	2	The level of understanding of definitions and basic concepts which enables the relating of this knowledge to job requirements.
The level of proficiency required to independently and correctly perform duties and tasks.	3	The level of understanding of theory and principles of a topic or body of knowledge which enables critical thought and independent performance and is usually gained through formal training and job experience.
The level of proficiency which usually can be acquired by considerable training and extensive practical job experience.	4	The level of knowledge which enables the synthesis or integration of theory facts and practical lessons learned to support the identification of knowledge solutions to non-routine problems. This is gained from formal training and education and considerable job experience.
The level of proficiency indicated by a mastery of techniques and expert application of procedures.	5	A recognized level of expertise, which includes a mastery of theory and application, related to a given body of knowledge.

Interpreting Specifications

42. Specifications are the major input to the task analysis process. As indicated above, OS are prepared, managed and approved by NDHQ/DMHRR and OSS are prepared by MAs and managed by NDHQ/DMHRR. Specifications are used for a variety of purposes including recruiting, employment, compensation, pay and benefits, career management and training and education.

43. In 2001 DMHRR developed the Job Based Occupational Specification (JBOS) format to describe the job requirements for an occupation or group of occupations. The JBOS permits tasks, skills, and knowledge associated with specific jobs to be clearly shown in Section 3 of the specification. Training specialists use this information to identify training and education requirements and to design suitable training and professional development programmes. Well-designed training and education closes the gap between required and available skills and knowledge. The JBOS enables training specialists to tailor training to match job requirements and to remedy skill deficiencies.

44. The JBOS formatted OSs will eventually replace all IOSs. However, until conversion is complete, QSWBs will continue to work with IOS and JBOS.

45. Both IOS and JBOS are structured similarly, in three parts, consisting of:

- **Section 1 — *General*** — describes the common occupational requirements;

- **Section 2 — *Occupational Development*** — contains the normal career development information in terms of employment opportunities and training requirements of the Regular (Reg F), Reserve (P Res) and Special Force (Spec F) components of an occupation at each rank level, as depicted in Table 10 which is abridged and extracted from Medical Technician MOSID 00334.

- **Section 3 — *Occupational Performance Requirements*** — contains duty areas, tasks, skills and knowledge, and associated job proficiency levels for the jobs defined in Section 2.

Table 10: JBOS — Integrated Occupational Framework (IOF)

Spec F						P Res		Reg F						OCCUPATIONAL JOBS	Pte (T)	Cpl	MCpl	Sgt	WO	MWO	CWO
F MED TECH	B MED TECH	PA	OR TECH	PMED TECH	AERO MED TECH	MED TECH (M)	MED TECH (A)	MED TECH	MED TECH — PA	MED TECH — OR	MED TECH — JNR PMED	MED TECH — SNR PMED	MED TECH — AERO MED								
	✦						✦	✦						Junior Clinic MED TECH	✦						
	✦						✦	✦						Junior Ward MED TECH	✦						
✦						✦	✦	✦						Junior Field MED TECH	✦						
	✦						✦	✦						Clinic MED TECH		✦	✦				
	✦						✦	✦						Ward MED TECH		✦	✦				
✦						✦	✦	✦						Field/UMS/Sickbay MED TECH		✦	✦				
✦						✦	✦	✦						Section Commander/UMS NCO I/C				✦			
	✦						✦	✦						Ward Master/Medical Clinic NCO I/C				✦			
✦						✦	✦	✦						RSS Sergeant MED TECH				✦			
		✦							✦					Independent PA					✦		
		✦							✦					Ward/Clinical PA					✦		
		✦							✦					Field PA					✦		
		✦							✦					Snr Naval PA						✦	
		✦							✦					Sea Training PA						✦	
		✦							✦					CSM PA						✦	
		✦							✦					Senior PA Advisor							✦
														Etcetera...							

46. The information in the Integrated Occupational Framework and the Occupational Performance Requirements tables is used to determine the potential training requirements for each job in each developmental period for the Spec F, P Res, and Reg F components. Occupational qualifications associated with the jobs identified in Section 2 are acquired through occupational and specialty training, education and professional development. For instance, in the example above:

a. the jobs of Junior Clinic Med Tech, Junior Ward Med Tech and Junior Field Med Tech belong to developmental period (DP) 1, and form the basis for QL 3 training and education;

b. the jobs of Clinic Med Tech, Ward Med Tech and Field/UMS/sickbay Med Tech belong to DP 2 and form the basis for QL 5 training and education;

c. the jobs of Section Commander/UMS NCO I/C, Ward Master/Medical Clinic NCO I/C and RSS Sergeant Med Tech belong to DP 3 and form the basis for QL6A training and education; and

d. The remainder of the job requirements would be met through occupational or specialty training and education, as required.

47. The specific duties and tasks associated with the occupational requirements, as well as the knowledge and skill requirements, and their required proficiency level, are listed in Section 3, as depicted in Table 11 which is extracted from Med Tech MOSID 00334 (abridged for illustration purposes).

Table 11: Occupational Performance Requirements

Serial	DUTY AREA A — MEDICAL ADMINISTRATION Occupational Requirements	Junior Clinic Med Tech	Junior Ward Med Tech	Junior Field Med Tech	Clinic Med Tech	Ward Med Tech	Field/UMS/Sickbay Med Tech	Section Cmdr/UMS NCO I/C	Ward Master/Clinic NCO I/C	Etcetera ...
	Task									
AT0005	Audit medical files and records	1	1	1	3	3	3	3	3	
AT0010	Encode/decode diagnosis and treatment				2	2	2	3	3	
AT0015	Collate medical reports and returns				2	2	2	3	3	
AT0020	Process medical documents	2	2	2	3	3	3	3	3	
AT0025	Initiate CAS EVAC requests							3	3	
AT0030	Initiate casualty report procedures					2		2	3	3	
	Etcetera ...									
AK0005	**Knowledge** Medical examination requirements	2	2	2	3	3	3	3	3	
AK0010	CRB (M) procedures	1	1	1	2	2	2	3	3	
AK0015	Budget accounting procedures									
	No Duty **Skill**									
S0005	Identifying cardiac abnormalities	2	2	2	2	2	3	3		
S0010	Managing stress	2	2	2	3	3	3	3	3	

48. **Interpretation.** These performance requirements are the minimum require-
ments that trainees must achieve to perform each job at the designated rank
level. To interpret the tables of data, a QSWB tasked to produce a QS would
look at the jobs and tasks listed in the performance requirements table, and
the required proficiency level. It should be noted that when a task is taught
at a lower level, it is not taught again at a higher QL level, unless there is a
required increase in proficiency.

Table 12: Sorting Job Requirements for Training Decisions

QUALIFICATION	APPLICABLE JOBS	JOB REQUIREMENTS (HIGHEST PROFICIENCY LEVEL)
DP 1 (QL3)	Job 1 Job 2 Job 3	AT0005 (1) AK0005 (2) AT0020 (2)
DP 2 (QL5A)	Job 4 Job 5 Job 6	AT0005 (3) AK0005 (3) AT0010 (2) AT0015 (2) AT0020 (3)
DP 3 (QL6A)	Job 7 Job 8	AT0005 (3) AK0005 (3) AT0010 (3) AT0015 (2) AT0020 (3)
DP 4 & 5		

49. Although QSWBs are primarily interested in Section 3, correct interpretation
of a specification requires review of Section 2, which outlines the division of
jobs by performance level. Therefore, to effectively interpret Section 3 one
must know the jobs that are applicable at each developmental period. The
information in the Integrated Occupational Framework table relates jobs to
rank and should be read in conjunction with the Occupational Qualification
Progression table, which relates ranks to developmental periods for each
component. As part of the analysis process, QSWBs will review and confirm
the jobs that may be trained concurrently or sequentially to achieve occupa-
tional qualifications. For instance, in Table 11, Task AT0005 will be taught at
proficiency level 1 for Jobs 1, 2, and 3 at DP 1 (QL 3) and again for Job 4, 5, 6
at DP 2 (QL 5A) because there is an increased proficiency requirement (level
3). Similarly, AK 005 requires training to level 2 during DP 1 training, and
to level 3 for DP 2 training because the knowledge requirement increases,
e.g., there is new material and/or new way of applying that material.

50. One of the most important items in analyzing tasks to write performance
objectives is interpreting the required proficiency level in terms of training
implications. For instance, in technical occupations the task "resolve faults"
is common. The board must clearly understand the difference between a
level 1 or 2 which may be limited to recognition and identification of a fault,

and a level 3, where the performer is expected to be able to manipulate the equipment and make decisions about a course of action. The specific training demands must be documented clearly in the performance standard. Each board will have to identify what these levels mean for the occupation and its associated jobs.

51. **Revisions to Task Statements.** In analyzing tasks, the QSWB may determine that some of the identified tasks are either too specific, or not specific enough, or too large for effective training. In these cases, sub-division or revision may be required to clarify the performance and training requirements. The board must first assure themselves that proposed revision or sub-divisions are not simply task elements that will be identified in the instructional analysis. If new tasks are required, they must meet the following criteria:

a. state a specific action, using a verb and an object;

b. have a definite beginning and end;

c. be performed in a relatively short period of time;

d. must be observable and measurable;

e. be independent of other actions and not a part of another procedure; and

f. have a specific purpose.

52. These proposed revisions should not modify the original intent of the approved specification, and all revisions to specifications must be validated and approved by DMHRR and the MA/Branch Advisor. Board members are cautioned that if the changes are not approved, the QS/TP will require revisions; therefore, all other options should be examined before new/revised tasks are recommended. Any additional tasks that are approved must be included as tasks selected for training.

53. **Select and Prioritize Tasks for Instruction.** Selection and prioritization are judgemental procedures that require a clear understanding of the duties, tasks and supporting elements that make up the performance requirement. This understanding is achieved through review of relevant data as discussed in Part 2 of this volume. In addition, the board will draw upon subject-matter expertise and an understanding of the resources and responsibilities of the agency requesting the instructional programme.

54. The selection of tasks is a procedure in which each task is assessed against a set of criteria to determine whether the target population will require instruction. If instruction is deemed necessary, the task is selected for instruction. If it is not, the task is recorded in the "No-Train" list, and a brief explanation for the decision is provided, e.g., gained through previous training, or on-job experience. Selected tasks are then assigned a priority for instruction based on the extent of the estimated need.

55. The following paragraphs outline two recommended approaches for selecting and prioritizing tasks. One or both of these procedures, or others, may be applied according to the type of tasks under analysis. Regardless of the approach taken, it is worth noting that most often it is the experience of the SMEs, sometimes referred to as "gut feel" about a task and the target population's capabilities, that most directly influences train/no-train decisions.

56. **Criterion Approach.** The QSWB establishes a list of criteria for each task that provides a basis for deciding whether there is a need for instruction and, if so, to what extent. The nature of the tasks and information available determine the criteria used. Tasks are selected and prioritized on the basis of the chosen criteria. Table 13 describes criteria which may be used, however, the particular tasks under consideration, as well as the needs of the user, may necessitate the use of different or additional criteria.

Table 13: Sample Criteria for Task Analysis

CRITERIA	DESCRIPTION
Entry level	Skills, knowledge and attitudes already possessed by the target population, including education level, previous qualifications, previous job experience and career profile. This information may be obtained from the task description or specification, related specifications, related qualification standards, and subject matter experts. In the event that all members of the target population are deemed already capable of performing a task, the task is immediately rated as not requiring training.
Percent Performing	The percentage of job incumbents who perform the task. Tasks performed by a significant number of incumbents (e.g., 66%) are more likely to be selected for instruction than those that are only performed by a few. If an OA has been completed, this info is available, in a special report called MOCSUM, and may be requested from DMHRR/SMT before commencing the OSWB.
Percent of time spent performing	In general, more instruction should be dedicated to tasks on which incumbents spend a relatively high proportion of their time relative to other tasks. Percentages in this are not meaningful since performance varies with each job and occupation. If an OA has been completed, this info is available in a CODAP report that may be requested from DMHRR/SMT.
Probable consequence of inadequate performance	An assessment of potential impact of error on mission, operation, product, or operator. Inadequate performance on some tasks can have dire consequences such as performance injury, loss of life, security breaches, or damage to equipment, and these tasks should be selected for training. SMEs are the most reliable source of information on this criterion.
Task delay tolerance	A measure of how much delay can be tolerated between the time the need for task performance becomes evident and the time the actual performance begins. A delay tolerance of zero would apply to tasks associated with emergencies, for example, extinguishing a fire in an aircraft engine. A high delay tolerance does not exclude a task from instruction, but indicates that other factors may be more important for selection.
Frequency of performance	If a task is performed frequently, the pay-off in terms of return on dollars expended on instruction is likely to be great, particularly if there is a known "best way" to perform the task. SMEs are potential sources of information.
Task performance difficulty	The amount of time, effort, and assistance required to achieve performance proficiency constitute a critical factor for all tasks.
Time between job entry and performance	This refers to the time interval between completion of training and performance of the task. The predicted "decay of skill" is a major factor to consider in determining the right amount of instruction and practice.

57. **Applying Criteria.** Once the board has established criteria and collected information on each task, it is ready to assess tasks against the criteria. Careful application of the criteria, coupled with the judgement and expertise of board members, results in informed decision-making. The following table illustrates some different combinations of factors and the possible decisions; it is not meant to be comprehensive.

Table 14: Sample Task Analysis Decisions

TASK	FACTORS	DECISION
X	Very few incumbents perform a particular task. The consequences of inadequate performance are negligible. There is very little requirement for the task to be performed on an urgent or emergency basis (there is normally time to get assistance and advice). Task is not at all difficult to learn on the job.	No instruction required
Y	Most incumbents perform the task. The consequences of inadequate performance are somewhat serious. The task must occasionally be performed on an urgent or emergency basis. Task is not at all difficult to learn on the job.	Moderate need for instruction
Z	All incumbents perform the task. The consequences of inadequate performance are serious. The task may need to be performed on an urgent or emergency basis. The task is difficult to learn on the job.	High priority for instruction

Note: Caution is recommended when making train/no-train decisions. Board members should remember that what appears to be a simple, easy-to-learn task to them because of their experience, may be difficult for beginners, and therefore some level of training may be required.

DIF Analysis — Difficulty, Importance and Frequency

58. **Selection Through DIF Analysis.** In many cases, task decisions can be based on a DIF analysis, an approach that summarizes the criteria listed above into three: difficulty, importance and frequency. To apply this technique, the standards board collects information on these factors for each task, and assesses each accordingly. The following diagram provides a simplified illustration of how DIF analysis supports select/reject decisions.

Figure 3: Simplified DIF Analysis
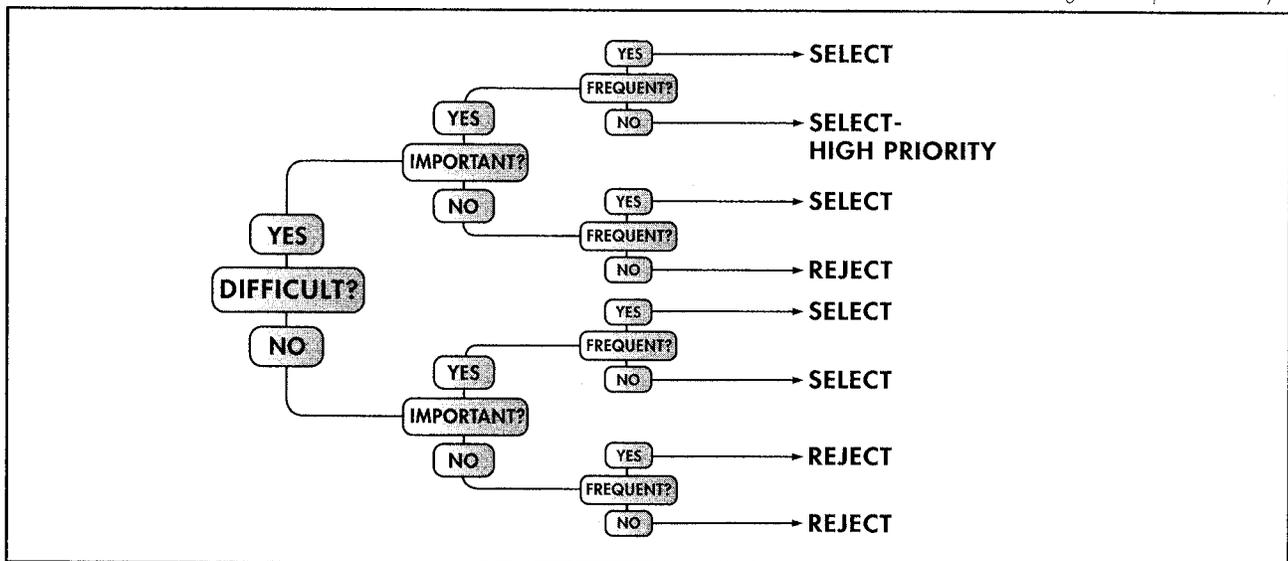
59. **Prioritizing Through DIF Analysis.** A more detailed application of DIF Analysis can be used to prioritize tasks for instruction, as illustrated in the following chart.

Figure 4: Detailed DIF Analysis Chart
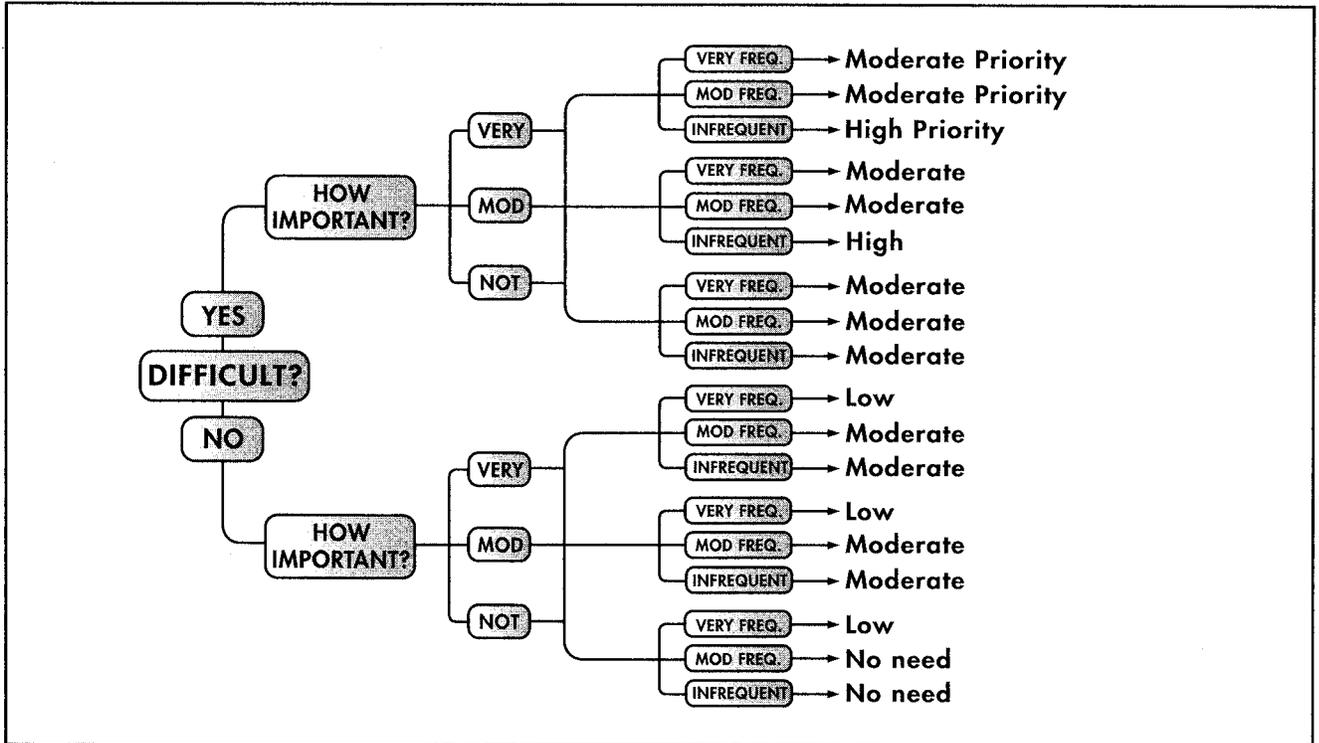
60. **Levels of Priority.** Whatever approach is used in making task decisions, it is important to assign levels of priority. This will guide designers and instructors to give appropriate emphasis to each selected task.

The following levels are suggested:

a. High priority: over-train (for example, through extensive drill and practice) to ensure retention and to minimize the likelihood of deterioration of performance or skill fade, over time;

b. Moderate priority: instruction up to the level required to do the task competently, assuming that task performance follows soon after completion of the instructional programme; and

c. Low priority: learner needs a general familiarity with the task and will become proficient on the job. Usually for tasks that are relatively easy and frequently performed.

61. **Organize the Selected Tasks.** Once tasks have been selected and prioritized, the QSWB defines the overall structure of the instructional requirement by identifying the links among tasks. The order of tasks and jobs presented in the specification may not be the most effective grouping for training purposes. If necessary, tasks should be re-sorted to show how they are used together to perform jobs.

62. Organizing tasks facilitates the writing of performance objectives and provides guidance to designers and instructors. Although a simple list may be used when the number of tasks is very small, a scalar diagram is the recommended method for representing a relatively large number of tasks because it helps group tasks and shows the relationships among them. Scalars are also useful in the design phase when decisions about sequencing, modularisation, learning objects, etc, are made. Therefore, they should be included in the QS. Guidelines for developing scalar diagrams are provided in Annex E.

63. Tasks, which were not selected for training, are recorded on a No-Train list together with a rationale for that decision. The complete task list is included in the QS because it is required for the Validation phase of the CFITES.

64. **Summary — Products of Task Analysis.** On completion of task analysis, the board is ready to proceed to the next step in the Analysis phase, which is writing performance objectives (discussed in Part 4 of this volume). The products of task analysis are as follows:

a. a prioritized list of tasks: the board identifies all tasks in the performance description as selected or rejected for instruction, including a rationale for all decisions and a priority for each selected task; and

b. a schematic representation (scalar) of the IT&E requirement.

65. **Variations — Occupational Specialty Specifications.** Often a QSWB will be tasked to develop a specialty specification as part of the analysis phase. The analysis process for OSS is essentially the same as that described for the OS, with the exception that the OSS describes only one job, and it provides a complete listing of the tasks, skills and knowledge statements associated with that specific job. If a task is identified as "no train" it is not deleted from the specification, for legal reasons; it is simply identified as no train with a rationale, e.g., acquired on previous training or through job experience. Additional details on OSS are provided in Annex B, and developers should always consult the applicable DMHRR references and website. To summarize the process:

a. review and confirm the tasks;

b. determine train/no-train tasks;

c. list selected tasks/ build scalar; and

d. write performance objectives.

66. For further information and guidance, consult your unit or command Training Development Officer.

SPECIFY PERFORMANCE/ EDUCATION OBJECTIVES

CFITES Principles

67. In the CF all training and education must focus on essential skills, knowledge and attitudes required to meet operational requirements and Departmental performance goals. The QS is the primary CFITES quality control document; it provides the training establishment with explicit objectives, which the trainee must achieve and the appropriate measures to ensure that trainees can perform on the job. Two types of objectives are used in the CF—performance and education objectives (POs and EdOs). Recommended procedures for developing each type of objective are provided below.

68. To maintain CFITES principles and to avoid confusion, where analysis indicates that the required skill or knowledge is linked to a specific task or job, it forms part of the POs and is identified during instructional analysis as an enabling objective (EO), which may be either knowledge, attitude or skill based. Knowledge elements that support General Specifications or mandated programmes, may be stated in Education Objectives. This model is depicted in Figure 5.

Figure 5: Identifying Objectives
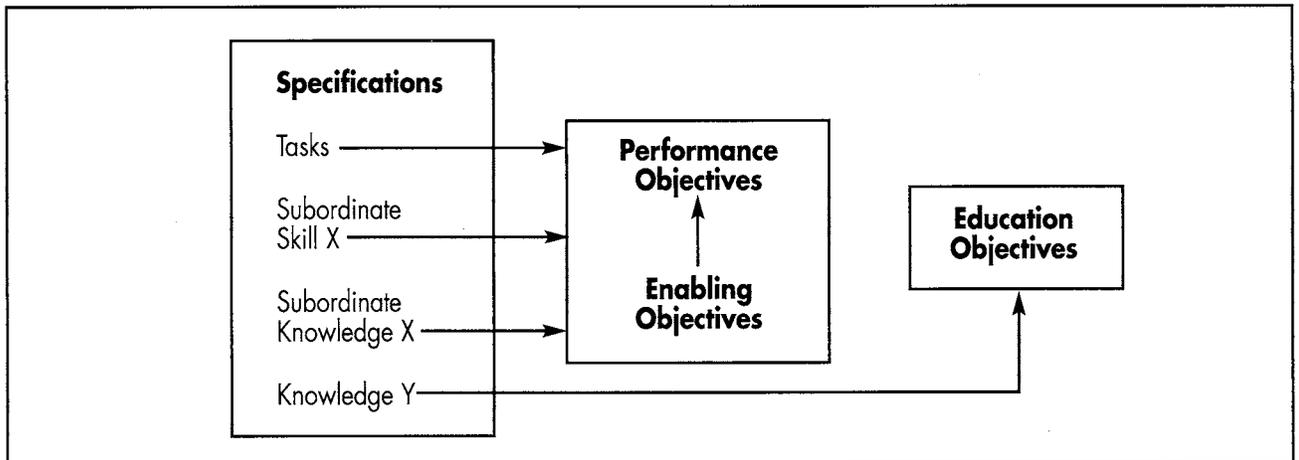
Levels of Performance

69. The vast majority of CF training and education is targeted at the *application* level which requires learners to apply knowledge in the way it will be used on the job, and is therefore, written in the form of performance objectives. Educational objectives are used primarily to describe cognitive tasks, e.g., explain, analyze or evaluate concepts, processes or principles, and therefore, should be limited to specific purposes such as those related to advanced professional development and specific academic requirements.

Table 15: Content-Performance Matrix (adapted from Clark, 1999, Merrill, 1997, Reigeluth, 1983).

Performance	Content	FACTS	CONCEPTS	PROCESSES	PROCEDURES	PRINCIPLES
APPLY All Performance Objectives			Use correct terms	Resolve a conflict with a claim	Complete a TD claim	Respond to a client service problem
REMEMBER Enabling and most Education Objectives		Recall password	Define terms	Describe how to process claim	Identify the steps in completing a claim	Cite applicable policies, regulations and orders
	Content	**FACTS**	**CONCEPTS**	**PROCESSES**	**PROCEDURES**	**PRINCIPLES**

Note: All types of content can be processed at the remember and application level, except facts. For this reason, factual content should be included in application level objectives because it enables performance.

Overview of Performance Objectives

70. **Definition of Performance Objectives.** Performance objectives are formal statements that specify what the graduate must be able to do in terms of operational performance. POs include the conditions that influence job performance and the standard to which members must perform on the job. POs are derived from tasks that were selected for instruction from the performance requirement during the task analysis process and they reflect real life job performance. Within the CFITES, tasks are defined as a substantive component of job-performance that contribute to an operational or departmental requirement. Performance objectives set tasks in context and describe learning outcomes in observable, measurable terms, i.e., how and how well an individual must perform on the job.

71. **Uses of POs.** Writing POs is the third process of the Analysis phase undertaken by the QSWB following a review of relevant documentation and completion of task analysis. POs are derived directly from the specifications, which constitute the actual job description. POs are a key element in the CFITES and serve as a performance benchmark throughout the Quality Control System. They provide IT&E staff with targets for the design, development, conduct and evaluation of instruction, and they tell operational units what to expect from course graduates. In addition, POs provide MAs with an overall control document for an IT&E programme, and form the basis for Validation activities.

72. **Main Elements of POs.** POs form a written specification of the learning outcome. The following table describes the essential elements of a PO.

Table 16: Elements of Performance Objectives

PO ELEMENT	DEFINITION	COMMENT
Performance Statement	Behavioural statement of the task to be performed in the operational environment, i.e., what the member must do on the job	Identified by task analysis
Conditions	Describes situation under which the performance must be completed, circumstances which affect how job is done	Based on actual workplace. When, where, and with what, tasks will be performed.
Standard	Describes how and how well performance must be completed	The greater the specificity provided here the more valuable the contribution to the training designers and developers. Clear, detailed and specific standard statements provide trainers with the scope and limits of training; they facilitate accurate job-based assessment and eliminate guesswork. In all instances, the degree of proficiency required is based on actual workplace needs.

73. **Supplementary Items.** The QS should provide all necessary information to instructional designers. POs should be presented stating the three key elements described above, and may be supplemented by additional items of information, which provide supporting detail to designers. Of particular concern is the identification of any factors that might limit the quality of training. Table 17 describes typical supplementary items.
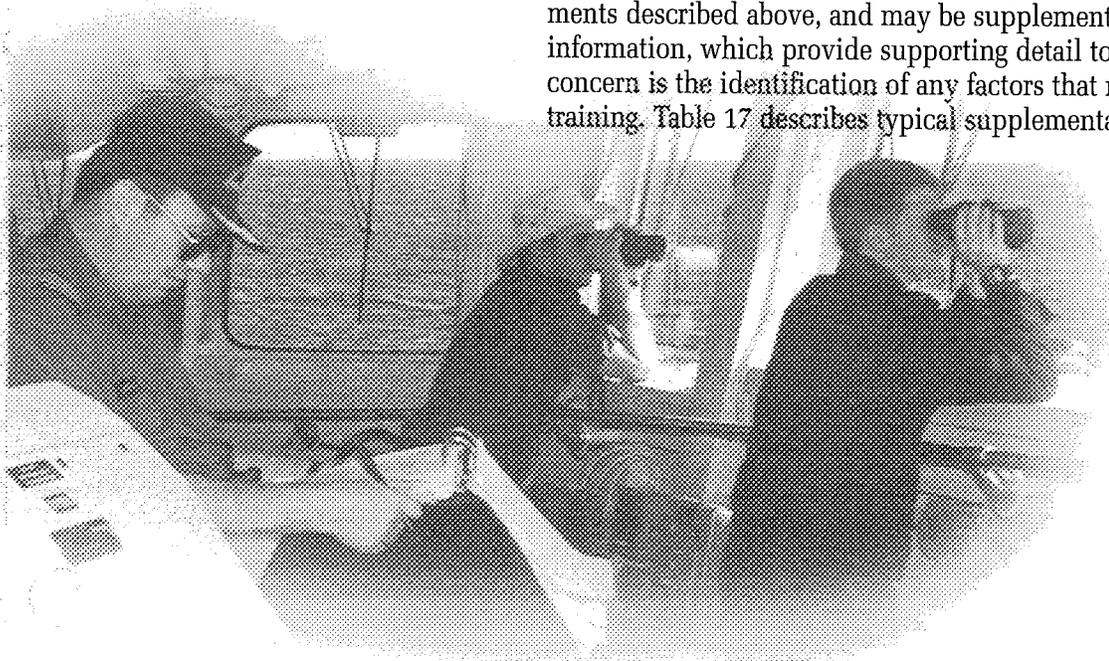
Table 17: Typical Supplementary Items for Performance Objectives

SUPPLEMENTARY ITEM	DESCRIPTION
Reference Numbers/Material	Key documents on which PO standards are based, or which serve as job aids
Specification Number(s) — Task, Knowledge	Identifies tasks from which PO was derived, and provides a link to the performance requirement **Note:** * It is recommended that specification task numbers be incorporated into the standards paragraph of the PO, rather than as a separate paragraph to ensure that all tasks listed in the specification (requiring training) are accounted for in the QS.
Remarks/ Limitations	Identifies critical factors which limit the quality or quantity of training.

Note: Supporting knowledge, skills and attitudes are determined in the Design phase.

74. **Limitations.** A PO describes actual operational job requirements so that learning activities can be designed to reflect them as closely as possible. Although training limitations are most appropriately identified during the design phase, on occasion, a board may identify a significant limitation on learning activities. For example, safety concerns and resource limitations, such as, maximum durations for training, requirements for modularization for P Res, maximum ammunition allotments, and non-availability of equipment for safety or security reasons, or any other factor which can limit the capability to train to operational standards. Limiting factors should be identified and recorded within the respective PO statement. They may also be identified during the Design and Development phases, and in this case the Managing Authority should be notified so that the additional limitations can be included in the QS.

Writing Performance Statements

75. **Definition of Performance Statement.** A performance statement is a clear, concise statement representing a logical and complete part of the job, which is observable and measurable. It forms the first part of the PO.

76. **Scope of Performance Statements.** Performance statements are derived from the tasks identified during task analysis as requiring instruction. A single performance statement often represents a group of related tasks. For example: "type a memorandum", "type a letter", and "type the minutes of a meeting" could be combined as "type military correspondence". The determining factors in combining tasks are the nature, similarity, and complexity of the skills required to perform each task.

77. **Constructing Performance Statements.** To clearly answer the question "What does the service member have to do?" a performance statement must be properly constructed. It should be a single sentence containing an action verb, the object of the action and any necessary qualifier. The components of the performance statement, "Obtain a blood specimen by venipuncture," are described in Table 18.

Table 18: Description of Sample Performance Statement

ELEMENT	DESCRIPTION / COMMENT
Action verb: *Obtain*	Describes what action is being done. First word is a statement. Only one action verb is used.
Object: *a blood specimen*	Identifies what is being acted on. Usually, only one object is used in the statement.
Necessary qualifier: *by venipuncture*	Clarifies which part of job is being performed. Distinguishes venipuncture from other means of obtaining blood samples (only used if required to distinguish between alternate methods).

78. **Guidelines for Writing Performance Statements.** Table 19 presents guidelines for successful performance statement writing, and Table 20 provides examples of performance statements and the specifications on which they are based.

Table 19: Guidelines for Performance Statements

GUIDELINE	COMMENTS / EXAMPLES
Use one action verb	The statement must describe an observable activity **Good:** Control travel expenses **Poor:** Plan, organize and control travel expenses. A performance statement is not a list of sub-tasks
Consider end product in selecting action verb	End product of overall performance can indicate best action verb to use **Good:** weld pipe **Poor:** use welding equipment
Focus on action, not knowledge	Critical knowledge requirements may be reflected later on in the standards statement or incorporated into enabling objectives in the design phase. **Good:** Advise commanders on laws of armed conflict. **Poor:** Demonstrate a thorough knowledge of the laws of armed conflict.

Table 20: Sample Performance Statements

SPECIFICATION / JOB	PERFORMANCE STATEMENT	COMMENT
Pilot (CC 130)	Perform take off of CC 130 Hercules	• *One task* • Action Verb — focuses on end result and answers the question: what does the member have to do? • Focuses on action, not knowledge • Object — identifies what is being acted on • Adds necessary qualifier • e.g., by doing x
Dental Clinical Assistant (QL 3)	Produce dental casts	
Chaplain	Advise commanders on moral, ethical and spiritual matters pertaining to military communities and operations	
Basic Survival Training — Arctic	Construct ground-to-air signals	

Writing Conditions Statements

79. **Definition of Conditions Statement.** Conditions statements, which are the second element of a performance objective, describe the situation under which the action specified in the performance statement must be completed. Conditions statements answer questions such as: When? Where? With what? Conditions are generally written in terms of what will be "given" (available to) or "denied" (not available to) the service member while performing the required task. Conditions reflect the work situation as accurately as possible, but include only those factors that influence job performance

80. **Common Types of Conditions.** Table 21 provides an overview of types of conditions that are often used in POs for occupational and specialty training. This list is not all-inclusive. The conditions included in a PO must accurately reflect the specific on-job conditions that exist for the task. Conditions that do not affect the performance do not require statements.

Table 21: Types of Conditions

TYPES OF CONDITIONS	EXAMPLES
Tools and equipment	• Protective clothing • Tools/equipment used • Replacement parts
Job aids, reference manuals and materials	• Procedural checklist/technical manuals • Maps, blue prints • Manufacturer's specifications • Textbooks
Supervision	• Under direction of crew commander
Assistance	• Tasks requiring two or more personnel
Special physical, psychological demands	• Confined work space • Noisy, distracting areas • Deadlines, lack of sleep
Environment	• Arctic, tropical environment • At night/in total darkness • Heavy rain/snowfall • Under fire • Day/night, in all weather conditions
Cues	• Malfunctions • Hazardous situations • Requisition/work orders

Note: Cues are very important conditions on the job because members always have some reason for beginning a task or for performing it in a certain manner. Cues can be simple or complex, with implications for vastly different performance expected of the member. An example of a simple cue is an order from a supervisor to replace a specific radio component. An example of a complex cue would be a "written estimate of the situation".

Writing Standards Statements

81. **Definition of PO Standards.** Standards indicate the required level of job performance by describing *how and how well the task(s)* must be completed. Valid standards are based on actual job requirements that are specific and clearly written.

82. **Purpose of PO Standards.** Standards indicate the acceptable level of performance to all concerned: learners, designers, instructors, units and command authorities. They dictate the scope and limits of the training. Standards are used to:

   a. distinguish members who can satisfactorily perform the tasks from those who cannot;

b. indicate to designers and instructors the level of proficiency which learners must attain; and

c. assure users that graduates are capable of the desired level of performance.

Note: It should be noted that DGHS sets medical fitness standards for the CF (A-MD-154-000/FP-000) and these standards cannot be reinterpreted or expanded by board members or training establishments. QSWB should consult the appropriate policies and specifications if there are questions regarding evaluation levels and specific physical job requirements.

83. **Degree of Difficulty.** Members pass or fail courses based on the measures defined in PO standards. It is imperative that standards reflect actual job requirements: they must be neither arbitrarily demanding nor too easy. If standards are too demanding, they may reflect an unrealistic ideal, and generate unnecessary costs. If standards are too easy, graduates will not achieve the required capability. A useful rule of thumb is to describe the level of proficiency expected by supervisors *on the first day of work.*

84. **Types of Standards.** Three types of standards used in occupational training are identified and described in Table 22 and guidelines for their use are provided in Table 23.

Table 22: Types of Standards

TYPE	DESCRIPTION
Product	Provides description of acceptable result of performance.
Process	Lists sub-tasks (major steps) to be performed in completion of process, when sequence or procedure is critical to successful performance.
Combination	Lists sub-tasks and a description of the acceptable product when both process and product are important measures of success.

Table 23: Guidelines on Preparing Performance Standards

IF...	THEN USE...	EXAMPLES
Only one specific product is acceptable Quality or product is not affected by process Finished product is observable	PRODUCT STANDARDS	All blocks of the travel order claim are completed in accordance with actual itinerary, with maximum allowable amounts as specified in A-AD-000, Ch #, Page # or checklist #.
Only one process is recognized Failure to use process could cause danger/damage to personnel/equipment Process followed is observable and measurable, but product is not	PROCESS STANDARDS	All power is shut off All safety guards are installed All bushings and armatures are lubricated
Both process and product are important Failure to use correct process could cause danger/damage to personnel/equipment Process and product are observable and measurable	COMBINATION STANDARDS	All faults are located All defective components are replaced Repaired equipment operates in accordance with manufacturer's specifications as listed in Ref A-PD-XXX, Ch #, Page #, or checklist #.

85. **Criteria for Standards: Overview.** Criteria, or measures of proficiency, are selected to more precisely define the target performance. Four commonly used measures are: completeness, soundness of judgement, accuracy, and speed.

86. **Measures of Completeness.** Measures of completeness answer the question, "What constitutes a complete performance" or, "What cannot be left undone?" Table 24 illustrates different ways in which completeness may be applied as a criterion.

Table 24: Measures of Completeness

WHAT MUST BE COMPLETE	EXAMPLES
All steps in a process	Complete fault finding procedure is followed.
Sequence	With all steps performed in accordance with A-AD-XXX.
Finished product	Completed memorandum contains all parts in accordance with Manual of Military Writing.
Format	Tracing strip taken during deep-held inspiration will be labeled III-DI.
Critical characteristics	All rotating shafts turn freely.
Clarity	Schematic diagram is amended to show modified circuits unobscured by other details or contamination.

87. **Soundness of Judgement.** If the judgement or decision required in performing a task is such that successful performance will be seriously affected by a wrong decision, it must be shown as a measure in the standard. For example, *"patient is referred to medical officer when seriousness of ailment is beyond the medical assistant's own authorized capability"*. If the end product is the decision itself, then the standard must directly measure the adequacy of the member's analytical or decision-making ability.

88. **Measures of Accuracy.** Accuracy measures are often used as a means of describing the desired level of performance, as illustrated in Table 25.

Table 25: Sample Accuracy Standards

ACCURACY OF...	EXPLANATION	EXAMPLES
Physical dimensions	Finished product has dimensions (angles, diameters, etc.) which can be measured with tools (rulers, etc.).	Shaft diameter is machined to a tolerance of ± .001 mm.
Other characteristics	Calculations which must be accurate to a certain number of decimal points. Radios that have to be tuned to the point of best reception.	Load calculation is correct to 0.1 decimal points. Signal strength is within 5% of maximum.

89. **Measures of Speed.** The speed of performing a task can have a critical effect on the outcome of a mission: a rapid response can contribute to the success of a mission but too slow a response may spell disaster. In other settings, work must be done quickly in order to avoid large backlogs and to promote overall unit effectiveness. Standards of speed must reflect operational requirements as in the following examples:

a. Rescue hitch must be tied within 3 minutes; or

b. Rate of typing is 45 words per minute.

Summary–Writing Performance Objectives

90. Well-written performance objectives ensure a close match between the outcomes of the training programme and the job performance requirement. The recommended format and sample performance objectives, including explanatory notes, are provided in Annex F. POs are written to include:

a. a performance statement that specifies what the member must be able to do;

b. conditions statements which describe the situation in which the performance is accomplished; and

c. standards which describe the required degree of proficiency in clear and specific terms.

Overview of Education Objectives

31. **Definition of Education Objective.** Education Objectives specify the knowledge or attitudinal elements of an instructional programme, which are required to meet operational requirements, departmental performance goals and/or the demands of the profession of arms. Educational programmes support intellectual skills such as evaluation, synthesis and judgement and contribute to the ability to interpret information and make reasoned responses to unpredictable or open-ended situations. Educational requirements stem from the General Specifications (OGS and NCMGS), the identified developmental periods associated with a military career, the knowledge demands associated with increased organizational responsibility, and specific academic instructional programmes, e.g., Military College and professional development programmes.

32. **Use of Education Objectives.** EdOs should be limited to use in defining academic and professional development programmes as well as certain mandated programmes. They have the same significance as POs in that their successful completion is necessary for awarding of CF qualifications. The use of educational objectives in occupational training is not recommended and their use should be fully justified before the MA grants final approval of the QS. Educational requirements are defined, produced and maintained through an iterative process leading from the definition of an education requirement to the verification that the education requirement has been satisfied. Educational programmes are developed and conducted in a manner which prevents unnecessary effort, and which ensures overall cost-effectiveness.

33. The requirement for EdOs is established during the needs assessment review in the Analysis Phase. The design, development, conduct, evaluation and validation of education follows the same processes as for training, and are described in the A-P9-050 volumes of the Manual of Individual Training and Education.

34. **Recommended Procedure.** Table 26 summarizes the recommended procedures for conducting analysis to produce readily identifiable education objectives.

Table 26: Steps in Knowledge Element Analysis

STEP	ACTION	OUTPUT
Select instructional elements	Review Needs Assessment Identify required knowledge and attitude which require instruction **Note:** *Instruction is required if a role or function is new to the target population, or if it involves a different performance context and higher knowledge demands.*	List of topics or subjects selected for instruction
		List of topics or subjects not selected for instruction
		Rationale for selection or rejection
		Scalar to show links among knowledge elements
Prioritize instructional elements	Determine scope of instruction Provide rationale for decisions **Note:** *Determine the degree of proficiency for each subject area.*	Strategy — the board recommends instructional strategies to support knowledge development, e.g., formal course, including in-service or out-service, distributed learning, etc.
Organize instructional elements	Group knowledge elements and subjects and define links among them (if any).	

95. **Review Needs Assessment.** A requirement for education must be clearly defined by the sponsor requesting it, and approved by the designated MA, in consultation with the Branch. If the needs assessment indicates there is a performance requirement and a substantiated recommendation for an education programme exists, the board must consider whether:

a. the knowledge and attitudes are identified in a general specification, or linked to a departmental mandate; and

b. the recommendation for education is based on an analysis of the deficiency in, or risks to, the performance requirement, its causes and potential solutions.

96. **Identify Required Knowledge and Attitudes.** Examine the requirements data and gather opinions of SMEs to identify knowledge and attitude elements that require instruction, and determine the level of instruction needed for each knowledge and attitude element. The guiding question is — how will the learner use the information or knowledge provided? Individuals use information to apply or remember: facts, concepts, processes, procedures and principles. Knowing what learners need to know and how they will use information will help to identify education objectives and determine the components of the instructional programme. For more information see Volume 4 *Design of Instructional Programmes.*

97. **Select Knowledge and Attitudes for Education.** A knowledge or attitudinal element requires instruction if the associated role or function is new to the target population, or it involves a different performance context and higher knowledge demands. Specify what information, context, and factors related to each knowledge and attitude element require instruction

98. **Prioritize Selected Knowledge and Attitudes.** Prioritize the knowledge and attitude elements based on criticality and scope. This prioritized list will help rationalize the design and evaluation of the instructional programme, and assist the board in organizing and linking the various elements.

99. **Organize Selected Knowledge and Attitudes.** Grouping knowledge and attitude elements provides the board with:

a. a rational organization of the instructional need;

b. an overview of the entire requirement; and

c. the interdependencies (if any) among the knowledge and attitudes to be instructed.

100. Although a simple list of knowledge and attitude elements may be used when the list is limited, a scalar diagram is recommended for large numbers of knowledge and attitude statements to demonstrate the relationship among them. The scalar assists the board in specifying EdOs and the instructional designers in preparing or procuring a programme to meet the educational need.

Writing Education Objectives

101. Elements of an Education Objective. Education Objectives describe the essential components of the instructional outcome, as depicted in Table 27.

Table 27: Elements of an Education Objective

EDO ELEMENT	DEFINITION	COMMENT
Instructional Outcome	A statement of performance stated in terms of cognitive skill, that represents the required knowledge level. Focus on the individual's ability to remember or apply: • Facts • Concepts • Processes • Procedures • Principles	The focus of instruction at this level is to develop cognitive ability therefore, verbs such as the following may be used: • Explain • Demonstrate • Apply • Analyze • Synthesize • Evaluate **Note:** *One cannot observe a cognitive skill; however one can see the application of knowledge through its products, e.g., briefings, presentations, analytical papers, policies and doctrines. For more info on cognitive skills see Bloom, 1972 and Volume 4 Design of Instructional Programmes.*
Conditions	A statement of what is provided to cue or support the performance statement.	May include resources and references, including coaches and mentors.
Standard	A statement that establishes the scope of the content that satisfies the requirement, and sets the quality of performance in terms of the processes or products associated with the skill under development.	It is not simply the grades or types of evaluation that will be used to measure the standard. It details the measure of acceptable quality or how well one must perform. Specification numbers are to be included in the standards paragraph to provide a link to the specification or stated requirements list, e.g., the OGS/NCMGS, or departmental mandate.

Note: Attitude statements do not appear in formal specifications, but often link to knowledge and performance requirements.

102. **Supplementary Items.** Educational standards should provide all necessary information to aid instructional designers develop or select a suitable programme of studies. Table 28 describes the types of supporting details that may be required by designers.

Table 28: Typical Supplementary Information for Education Objectives

SUPPLEMENTARY ITEM	DESCRIPTION
Specification knowledge numbers	It is recommended that specification knowledge numbers (if applicable) be recorded in this paragraph. They identify the knowledge on which the EdO is based and are derived from the performance requirement.
References	A list of the key documents that are provided in the conditions or used in the standard.
Instructional Considerations	The board may identify a significant limitation on learning or evaluating specific knowledge and attitudes in the objective, e.g., resource or time constraints. They may also identify appropriate resources required to complete the instructional programme.

Summary —— Writing Education Objectives

103. Appropriately defined education objectives ensure a close match between the outcomes of the instructional programme and the job performance and professional development requirements. Sample EdOs are provided in Annex G. EdOs are written to include:

a. a statement of the instructional outcome;

b. a conditions statement which describe the application of knowledge; and

c. a standards statement which describes the quality of performance in terms of the processes, products, or capability.
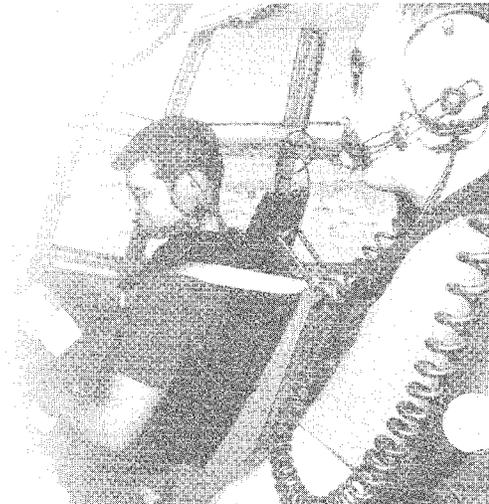
PREPARING QUALIFICATION STANDARDS

Overview

104. **Definition.** QS is a formal document prepared by a MA to guide the design, development, conduct, evaluation and validation of an IT&E programme. The primary purpose of a QS is to control the quality of instruction by describing the tasks the graduate must learn to perform, the conditions under which they must be performed, and the standard of performance needed to attain operational requirements and/or departmental goals.

105. **Background.** The decision to develop an instructional programme is made during needs assessment. The actual IT&E requirement is defined during the Analysis phase through review of needs assessment findings, task analysis and by specifying performance or education objectives. These processes are described in parts 2, 3 and 4 of this volume. QS documents the outcomes of these processes and serves as the foundation for the design of an IT&E programme.

Drafting Qualification Standards

106. **Contents.** The board is ready to draft the QS when it has completed the three processes of the Analysis phase. The QS and Training Plan (TP) format is at the discretion of the MA, and control of the TP may be devolved to the school or maintained at the MA HQ. Performance and Education Objectives may be written in either sequential paragraph style or in tabular format. Where training crosses over, or is common to more than one MA, as is the case for primary, intermediate and senior leadership courses, one common QS/TP format should be used to minimize confusion and duplication.

107. Each MA has a preferred format for the QS, for example:

a. CFSTG uses a two chapter format consisting of Chapter 1: General and Chapter 2: Performance Objectives. The IT&E establishment is responsible for including Management Details and Assessment in the TP;

b. CMS combines the QS and TP into one document entitled the Qualification Standard and Plan (QSP). A single board is convened with the MA responsible for Chapter 1: Course Management Details and Chapter 2: Performance Objectives. The IT&E establishment board members have responsibility for Chapter 3: Assessment of Trainee and Chapter 4: Enabling Objectives, however, these are subject to MA approval;

c. CLS uses a 4 chapter format, Chapter 1: General, Chapter 2: Training Management Details, Chapter 3: Assessment of Trainees and Chapter 4: Performance Objectives in the QS document; and

d. CAS uses a 4 chapter format; Chapter 1: General, Chapter 2: Training Management Details, Chapter 3: Assessment of Course Member and Chapter 4: Performance Objectives.

Formats and examples of QSs/QSPs for each MA can be found on the CFTDC web site at **CFTDC/TrainingResources** and are very helpful in drafting a QS.

108. Although the format of QS/TPs may vary, as a minimum a QS should include:

a. a statement of the purpose of the document, for example: *The purpose of this qualification standard is to establish the requirements for personnel to perform the duties of Radio Operator, Qualification Level 5*;

b. performance and/or education objectives with supporting detail, and any identified limitations;

c. a task list, indicating those tasks selected for instruction and those not selected for instruction, as well as a scalar diagram to show dependencies; and

d. main references and supplementary information as appropriate; for example, externally mandated assessment requirements, equivalencies and Logistic Support Analysis (LSA) information.

109. **Checklist.** After the QS has been drafted, it is desirable to review the draft to ensure that it clearly states the objectives of the instructional programme and provides all necessary supporting information. The post board checklist at Annex H (adapted from CFSTG) is recommended to ensure consistency.

Writing Record of Proceedings

110. An accurate record of proceedings is essential to document board decisions and actions. It forms an important part of the audit trail of the development of the instructional programme, and is a valuable resource for future revisions of the QS. The record of proceedings is submitted to the convening authority along with the draft QS.

111. All decisions made by the QSWB, especially the select/reject and training priority level, must be recorded in the record of proceedings. It is not necessary to write a lengthy rationale for each decision. Often a brief indicator such as "new task or skill" or "previously learned" will suffice.

112. The record of proceedings:

a. provides guidance to designers, developers and instructors;

b. alerts other agencies to potential impact on their operations, particularly if OJT is recommended or required as part of the training strategy; and

b. forms part of the audit trail of the development of the IT&E programme.

113. The record of proceedings should include the following:

a. recommended revisions, if any, to the governing specification;

b. recommendations, if any, on related IT&E or specifications;

c. a list of all job tasks, including rationale for priority, and no train decisions;

d. differences of opinion: any significant difficulties in reaching consensus, including strong minority views that might affect user acceptance;

    e. lessons learned: any significant observations or any aspect of deliberations that might affect other boards;

    f. general guidance: any important general guidance to instructional designers and developers not included elsewhere; and

    g. other considerations as directed by the convening authority.

114. **Other Considerations.** The board should identify whether any factors exist which impose significant limitations or constraints on instructional activities. These should be noted in the Record of Proceedings and also recorded in the appropriate PO in the QS. Limitations should only be identified if they affect the quality, quantity or cost of training. The board must also consider any other factors, which could have a major impact on instructional design, development and conduct. These factors include:

    a. operational doctrine and technical directives;

    b. Logistic Support Analysis (LSA) information;

    c. externally-mandated assessment requirements; and

    e. civilian qualifications that have been or could be granted equivalency status.

Adjourning the Board

115. When the convening authority is satisfied that the QSWB has achieved the objectives set for it, the board is adjourned. Prior to adjournment, the convening authority may consult with the entire board, or the chairperson, on receipt of the QS and record of proceedings in order to:

    a. confirm that all objectives established for the board have been achieved;

    b. review any recommendations of the board that require further staff action; and

    c. clarify any other significant issues recorded by the board in the proceedings.

Post Board Staff Actions

116. **Reviewing Draft QS.** Although staffing actions vary depending on the MA, it is recommended that the MA circulate the draft QS and record of proceedings to key stakeholders for information and comment. Following review of all comments, the MA may wish to make minor revisions to the QS. If extensive revisions are required, the board may have to be reconvened. However, this is an unlikely eventuality if the board was representative and maintained effective liaison with all agencies during the preparation of the QS. Typically, a QS is circulated as follows:

    a. user Commands and/or Groups: for comment on any aspect that may have an impact on operations, resources or other area of concern such as Reserve or DND civilian training;

    b. Branch Advisors, user Commands and/or Groups: for concurrence on any recommended changes to existing specifications; approved changes are then submitted to NDHQ, DMHRR for staff action; and

c. offices of collateral interest: for consideration of implications, impact of QS or recommendations on their areas of responsibility.

117. **Implementing the Draft QS.** When the review process has been completed, the QS is ready for implementation, and the designated MA may task the appropriate establishment to plan, develop, conduct and evaluate training. The QS is the input document for the Design phase of the CFITES.

118. **Assessing the QS Through Validation.** When the instructional programme has produced a sufficient number of graduates, and those graduates have been working in positions that perform the tasks, the adequacy of the QS can be assessed through the Validation process. The aim of Validation is to ensure that the programme has adequately prepared graduates to perform their operational tasks, and thus that the QS has accurately described the requirement. The Validation phase is described in Volume 8 of this series.

119. **Amending the QS Following Validation.** The validation report may identify problems with the OS/OSS, the performance requirements, and/or the instructional program, which necessitate changes to the control documents including the specification and the QS. As indicated in the introduction, validation is in fact, one of the drivers of the Analysis phase.

120. **Minor Changes.** If problems are relatively minor, the MA amends the QS and directs IT&E establishments to make appropriate revisions to the instructional programme.

121. **Major Changes.** In the event that the validation report recommends substantial changes to the OS/OSS and/or the QS, it may be necessary to reconvene a QSWB and repeat the processes of the Analysis phase. In instances where changes are recommended to the OS/OSS, the recommendation must be sent to the Command or Group for review, and should involve Branch consultation. Recommendations for changes to specifications are subsequently forwarded to NDHQ/DMHRR for review, approval and implementation. All agencies that might be affected by modifications to the QS, such as users, MAs for related qualifications, Branch Advisors and NDHQ agencies, must be consulted and informed.

122. **Maintaining the QS.** It is to be expected that developments will occur throughout the life cycle of the instructional programme that will necessitate modifications to the QS. As is the case for modifications resulting from Validation, it is incumbent on the MA to update the QS as necessary and advise affected agencies.

123. **Assistance and Guidance.** Training Development Officers are available in most training establishments or through the MA headquarters, or national level offices to guide the Analysis process, and where questions about process or product arise, these specialist officers should be consulted.

REFERENCES AND RESOURCES

Canadian Forces Training Development Centre, CFB Borden, *Analysis, Design and Evaluation Course* (qualification code: AIDD)

Colvin Clark, Ruth, (1999, 2nd Ed.). Developing Technical Training: *A structured approach for developing classroom and computer based instructional materials.* Silver Spring: MD: ISPI.

Director Personnel Planning, *Canadian Forces Manual of Military Occupational Structure, Volume 1 — General* (A-PD-055-001/AG-001) 29 March 1996

JBOS/OSS info: **http://hr.d-ndhq.dnd.ca/dmhrr/engraph/home_e.asp**

Mager, Robert F. (1997). *Preparing Instructional Objectives,* Atlanta, Center for Effective Performance.

Merrill, M.D. (1997). Instructional Strategies That Teach, *CBT Solutions* (November/December) 1-11.

DAOD 5031-2 — *Individual Training and Education Management Framework*

Reigeluth, C.M. (1983). *Instructional design theories and models: an overview of their current status.* Hillsdale, NJ: Erlbaum.

Additional information related to CFITES and QS development for each of the MAs is available at:

http://hr.ottawa-hull.mil.ca/dtep/engraph/cfitesvolumns_e.asp

http://borden.mil.ca/cftdc/Eng/index_e.htm

MILITARY OCCUPATIONAL STRUCTURE & SPECIFICATIONS

The NDHQ/DMHRR web site offers documents which will aid in the development and staffing of occupational specifications and both special personnel and postgraduate qualification requirements:
http://hr.dwan.dnd.ca/dmhrr/engraph/library/vol1_e.asp

Military Occupational Structure [MOS]

The arrangement of all required CF jobs into career fields and occupational groupings that provide the necessary HR management frameworks for peacetime and national emergency response activities in personnel planning, accounting, recruiting, selection, training, assignment, promotion, compensation and benefits and career development.

Occupation

A grouping of related jobs having similar duties and tasks and requiring similar qualifications. An occupation is the fundamental grouping used for the personnel cycle of activities known collectively as personnel management. An occupation may or not be subdivided into sub-occupations.

Sub-Occupation

An occupational sub-grouping of related jobs having similar duties and tasks to a parent occupation, but generally involving a narrower scope, or focus than that required by all members of the parent occupation.

Career Field

A grouping of related occupations and/or career field jobs which is used for the purpose of enhancing operational effectiveness while broadening individual career development through the rationalized grouping and management of operational and/or professional/occupational functions.

Position

The smallest part of a CF personnel establishment that specifies the work of one individual. The work comprising a number of similar positions may upon analysis be determined to constitute a CF job. A position exists whether it is occupied or vacant and is the basic work description unit used for personnel production planning and control activities. The total number of positions in an establishment equals the number of employees plus vacancies

Job

The work performed by one or more persons occupying similar positions and performing essentially the same major duties and employing the same competencies. The job is the basic unit for description of work in CF occupational specifications and forms the fundamental unit for creating Special Force and Reserve sub-occupations which relate to their Regular Force occupational counterparts.

Duty

A logical grouping of tasks representing a distinct segment of work or major activity performed by an individual.

Competency

The set of knowledge, skills, abilities and other personal qualities that the incumbent of a position requires to successfully perform the tasks associated with the position.

Task

A discrete segment of work, performed by an individual, which has a definite beginning and end, and which constitutes a logical and necessary part of a duty.

For the purposes of this manual, the term task is meant to include any substantive aspect of job performance that contributes to an operational or Departmental requirement. The term therefore covers a wide range of performance types, from highly specific, concrete tasks such as operating a piece of equipment to complex, less tangible tasks, such as leading subordinates.

Task lists

The core of a performance description such as a specification is the list of duty areas and tasks that make up the requirement. This description should also include critical supporting elements which provide insight into the scope and difficulty of the tasks.

Levels of Proficiency

Levels of proficiency are used to differentiate the levels of task, skill and knowledge required for the job and will affect the type and amount of instruction required. The CF uses a five point scale for this purpose. Most specifications assign tasks to developmental periods, and rank levels, to indicate the required level of performance. While these developmental periods vary across the different types of specifications, they generally indicate points on a range from beginner to intermediate to expert.

Specifications

Policy and standardization documents which describe the general and/or specific job performance and environmental requirements for all officer and NCM occupations. While potentially differing in their scope of jobs performed, specifications for related Regular Force, Special Force (Mobilization) and Primary Reserve occupations will be integrated into a single document based on job-requirements. Such Job-Based Occupational Specifications (JBOS) will reflect an overall organization by Occupations within Career Fields.

General Specification (GS)

A personnel management and quality control document that identifies the common military and unique environmental qualification requirements for CF personnel. There is a separate GS for Officers (OGS) and for NCMs (NCMGS).

Occupational Specification [OS]

A personnel management and quality control document that identifies the minimum qualifications required for entry into an occupation, the common job performance requirements for each occupational qualification level, and the career, training and employment patterns for occupational members. An OS is job-based and reflects related Regular Force and Mobilization requirements, and Primary Reserve occupational requirements where applicable.

Format

The introduction of the Total Force concept led to the adoption of a common integrated OS format. The integrated OS format documents the requirements of the Special Force (Mobilization), P Res and Reg F in a single comprehensive document.

In order to document an occupation, the occupational jobs performed by all members of an occupation at a given rank level are identified then viewed in terms of the broad occupational duties performed. Within each duty area, the specific tasks and associated skills and knowledge associated with each job can then be detailed. The newest format — the Job Based Occupation Specification (JBOS) — is also technically an IOS, but the term IOS is often restricted to pre-JBOS integrated OSs. Often an occupation does not have a Primary Reserve component but all OSs have Regular and Special Force components.

Occupational Specialty Specification [OSS]

A job-based personnel management and quality control document that identifies the additional competencies required by an individual to receive a specialty qualification.

Occupational Analysis [OA]

The process by which members of an occupation are surveyed to determine what Tasks (T), Skills (S), and Knowledge (K) are required for core/essential occupational jobs. A full OA normally takes a year.

The results of this survey are put through a family of computer programs called CODAP that, among other things, provides the raw material for Section 3 of the Job Based Occupational Specification (JBOS). Section 3 is presented in the form of TSK (rows) versus Jobs (columns). Jobs are determined by statistical analysis from CODAP. Jobs are sets of largely mutually exclusive TSK. No two jobs can have exactly the same list of TSK because, by definition, jobs are different sets of TSK, though there may be considerable overlap.

Occupational Structure Implementation Plan [OSIP]

The document used as the common structure from which ADM(HR-Mil) and other agencies coordinate the activities to create or delete new occupations in the CF. Creating or deleting occupations in the CF is, by definition, a major change to the Military Occupational Structure (MOS). The most basic OSIP activities include coordinating and defining MOS structure, recruiting, training, pay, establishment, and career management.

OSIPs generally follow OAs; however an OSIP can also follow a Change Proposal (CP). CP is the fast track process to change the MOS without going through OA. Both OA and CP should follow a Problem Definition Paper (PDP) sent from the Sponsor of Change, normally the Branch Advisor, to MOSART (DMHRR 4). An OSIP normally takes nine months with the implementation date on 01 Jan of any given year (after the Fall merit boards).

Occupation Specification Validation Board (OSVB)

The meeting chaired by MOSART 2-5 (DMHRR 3-3) where representatives from the full range of an occupation meet to validate an existing OS. If conducted, an OSVB falls immediately after a CP/OA and before the OSIP begins. On conclusion of a CP/OA, a Senior Advisor Group (SAG) sits to decide on the MOS structure, which is then documented in Sections 1&2 of an OS. An OSVB focuses on Section 3 of the OS to review/amend the results of a CP/OA. Occasionally an OSVB is conducted without a SAG (and preceding the CP/OA) on the request of the Branch acting as a representative of the MA.

An OSVB based on OA or JBOS data takes approximately three days with about ten Subject Matter Experts (SMEs) from the occupation. OSVBs based on data not already in JBOS format (i.e., no OA or previous JBOS) take one and a half weeks.

Variations

When an OA has been completed and a draft OS/OSS produced, the OSVB also called an **OS Review Board(OSRB)**, because the OA process has already "validated" the draft OS/OSS content, is conducted. Where an OA has not been completed, an **OS Working Group(OSWG)** is normally conducted, to prepare revised, draft OS/OSS, which will be reviewed and validated subsequently by an OSVB. Although the availability of resources may require these Boards to be modified in terms of structure/time frame — the ideal "model" should prevail.

Special Personnel Qualification Requirement (SPQR)

The staffing vehicle by which new specialty job requirements are introduced, or amendments to existing requirements staffed (new or amended OSS/OSQ). Detailed procedures and formats can be found in Chapter 5 and Annex A of A-PD-055-001/AG-001, which can be accessed through the DMHRR intranet site (see link above).

Postgraduate Qualification Requirement (PGQR)

The staffing vehicle by which new postgraduate training requirements are introduced, or amendments to existing requirements staffed. Due to the potentially significant financial implications, these are handled separately from normal SPQR. Detailed procedures and formats can be found in Chapter 5 and Annex B of A-PD-055-001/AG-001, which can be accessed through the DMHRR intranet site (see link above).

Instructions for completing OSS

Instructions for completing an OSS can be found on the DMHRR web site. See specifically: A-PD-055-001/AG-001, Chapter 3 and Annex B to Chapter 3.

This source should be used to ensure accuracy and currency of format and development conventions. The OSS code will be assigned by DMHRR 3-3 upon acceptance of the qualification. An electronic OSS Template in MS Word format and approved criteria for writing Task, Skill and Knowledge statements, are also available on the DMHRR Intranet site (see link above).

Staffing minor OS and OSS amendments

There are three ways to change an OS: through an OA, through an OS Board, or via a letter from the Branch Advisor to DMHRR 3 requesting a specific change. Details are provided in Chapter 5 A-PD-055-001/AG-001 *Canadian Forces Manual Of Military Occupational Structure*, an extract follows:

An OS or OSS amendment request may be submitted by simple correspondence summarizing the nature of the changes and the reasons for the changes. Requests are to be staffed via the normal Chain of Command, through the appropriate Branch Advisor for support occupations, to DMHRR for validation and approval. The sponsor may request DMHRR assistance to convene a Validation or Writing Board to produce a completely revised or updated OS/OSS. All requests must include a red-lined copy of the specification indicating all requested changes. Note that due to the impact upon training documentation TSK serial numbering is baselined upon completion of major revisions. Changes to statement serial numbering will therefore not be considered in a minor amendment. New statements will numbered by the DMHRR desk officer. Changes to OS that do not affect the structure of the occupation are normally implemented without delay. However, depending upon the scope of change, DMHRR may require validation of the proposed amendment(s) through an OSVB. All specifications are annotated with the Date Approved indicating the date the original version of the OS was approved. Approved minor changes are indicated by the addition of the date of the latest approved amendment.
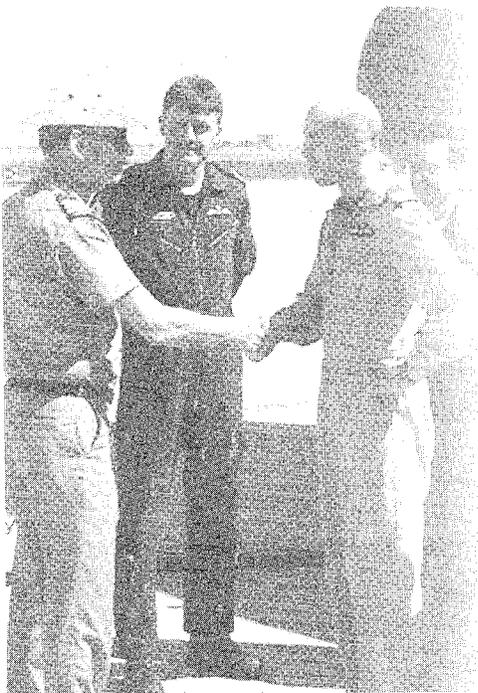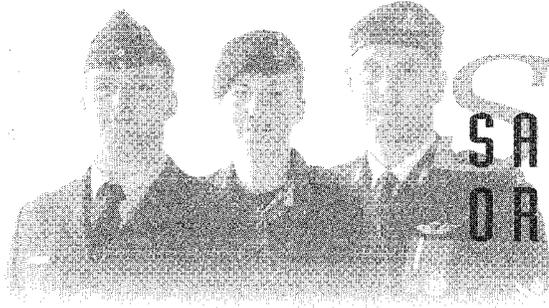
SAMPLE CONVENING ORDER FOR QSWB

4985-1 (CFTDC Stds QA)

[date]

Distribution List

CONVENING ORDER FOR QUALIFICATION
STANDARD WRITING BOARD OCCUPATIONAL
SPECIALTY SPECIFICATION FOR ARMY
SIGNALS OFFICER

References:
  A. A-P9-050/PT-003 Canadian Forces
     Manual of Individual Training and
     Education, Volume 3, Annex F
     Recommended Composition of
     Qualification Standards Writing Board

  B. STGO 2-2-1 Qualification Standard
     Staffing Procedure

  C. CFRETS CFSTG G3 Tasking Order TV 462

1. As Managing Authority for subject qualifica-
    tion, Commander Canadian Forces Support
    Training Group (CFSTG), G3 Training will con-
    vene a Qualification Standard Writing Board
    (QSWB) in accordance with references.

2. Coordinating instructions are as follows:

    a. start date and time — 18 Feb 02 at 0900 hrs;

    b. end date and time — 22 Feb 02 at 1600 hrs;

    c. location — CFTDC Borden; and

    d. Board Coordinator — Capt X CFTDC.

3. The purpose of this QSWB is to develop the
    XXX QS. This requirement is the result of an
    amended specification.

4. In accordance with the Tasking Order at
    reference C, members selected for the board
    are as follows:

    a. Chairperson —

    b. Subject matter experts —

    c. Training Development Officer — Capt X.,
       CFTDC Borden; and

    d. Secretary — Capt X, CFSCE Kingston.

4985-1 (AQ Nor CDIFC)

[date]

Liste de distribution

ORDRE DE CONVOCATION D'UN COMITÉ DES
NORMES DE QUALIFICATION (CNQ) – DESCRIP-
TION DE SPÉCIALITÉ DÉSIGNÉE DE L'OFFICIER
DES **TRANSMISSIONS DE L'ARMÉE**

Références :
  A. A-P9-050/PT-003, Manuel de l'instruction
     individuelle et de l'éducation des Forces
     canadiennes, Volume 3, Annexe F –
     Composition conseillée – Comité des
     normes de qualification

  B. STGO 2-2-1 Qualification Standard
     Staffing Procedure

  C. GISFC SRÉIFC G3 Tasking Order TV 462

1. En qualité d'autorité de gestion de la DGPM
    susmentionnée, le G3 Instruction, Groupe
    de l'instruction de soutien des Forces canadi-
    ennes, émet un ordre de convocation d'un
    Comité des normes de qualification (CNQ)
    conformément aux références précitées.

2. Instructions de coordination :

    a. début – le 18 feb 02, à 9 h;

    b. fin – le 22 feb 02, à 16 h;

    c. lieu – CDIFC Borden; et

    d. Coordinateur du Comité – Le capt X, CDIFC.

3. Le mandat du CNQ est d'élaborer les NORQUAL
    du XXX. L'établissement de ces norqual
    s'impose par suite d'une modification à la DSD.

4. Conformément à l'ordre d'assignation des
    tâches mentionné à la réf C, les membres
    du Comité sont les suivants :

    a. Le président –

    b. Les experts en la matière –

    c. L'officier du développement de l'instruction
       – le capt X, CDIFC Borden; et

    d. Le secrétaire du Comité – le capt X, ÉÉCFC
       Kingston.

5. TD costs will be charged in accordance with the Internal Orders and TANs indicated on the Tasking Order. Board members are to book transportation **by the most economical means.** Civilian air costs shall not exceed $500.00 round trip. Travel costs exceeding this limit shall be approved by Cpl X, CFTDC Stds Quality Assurance (QA) Clerk (Avn 270-3540) prior to the expenditure. There will be no car rental/high rate mileage unless authorized by Cpl X; all requests for car rental or high rate mileage must be costed to verify economic benefit of said means and then submitted via e-mail to Cpl X. Copies of finalized claims are to be forwarded to CFTDC Stds QA.

6. Quarters have been booked for the QSWB members at CFB Borden. If travel arrangements require different dates, please contact Cpl X, at Avn 270-3540, so that she may alter the reservation. Should the arrangements change, QSWB members will be notified immediately.

7. Board members are to confirm their attendance with CFTDC Stds QA, Corporal X, at Avn 270-3540. Board members should prepare themselves by obtaining a working knowledge of the Canadian Forces Individual Training and Education System procedures through: study of reference A — available over the DIN at the DTEP CFITES site **(http://hr.ottawa-hull.mil.ca/dtep/engraph/cfitesvolumns_e.asp**

8. An electronic copy of the QS is required for the approval process by CFSTG G3.

9. I wish you success with this vitally important endeavour.

Colonel
Deputy Commander

Distribution List
Action
(As required)
Information
(As required)

5. Les frais de ST doivent être imputés aux ordres internes et aux NAV indiqués dans l'ordre d'assignation des tâches. Les membres du Comité doivent utiliser le moyen de transport **le plus économique** possible. Le coût du billet de vol commercial aller-retour ne doit pas dépasser 500 $. Les frais de voyage qui dépassent cette limite doivent être approuvés par cpl X, à la section de l'assurance de qualité (AQ) des normes du CDIFC (RCCC 270-3540) d'avance; toute demande de location de voiture ou demande de taux élevés pour le millage doit être justifiée et doit démontrer clairement le(s) bénéfice(s) financier d'une telle demande. Le tout doit parvenir au cpl X, au CDIFC par courrier électronique. L'indemnité de parcours au taux élevé et la location d'une voiture sont interdites, sauf autorisation contraire du cpl X (RCCC 270-3540). Les demandes finalisées doivent être acheminées à l'AQ Nor CDIFC.

6. Des réservations de chambre ont été faites pour les membres du CNQ à la caserne ici à BFC Borden. Si ces dates ne conviennent pas en raison de vos arrangements de voyage, veuillez communiquer avec cpl X, au RCCC 270-3540, qui verra à modifier les réservations. Le cas échéant, vous en serez avisés immédiatement.

7. Les membres du Comité doivent confirmer leur présence au cpl X (au RCCC 270-3540) à l'AQ Nor CDIFC. Pour se préparer en prévision du Comité, les membres devraient se familiariser avec le Système de l'instruction individuelle et de l'éducation des Forces canadiennes comme suit étudier la référence A, qui est accessible sur le RED, sur le site du SIIEFC DPIE à l'adresse **http://hr.ottawa-hull.mil.ca/dtep/frgraph/cfitesvolumns_e.asp**

8. Une copie électronique de la NQ est requise par GISFC G3 pour le processus d'approbation.

9. Je vous souhaite de mener à bien cette entreprise des plus importantes.

Le commandant adjoint
Colonel

Liste de distribution
Exécution
(Au besoin)
Information
(Au besoin)

COMPOSITION OF QS WRITING BOARD — ROLES AND RESPONSIBILITIES

| MEMBERS	RESPONSIBILITIES
Chairperson	• Briefs board members • Sets objectives, milestones • Coordinates with all concerned agencies • Mediates internal conflict • Resolves discrepancies under external control • Ensures standard is consistent with operational or Departmental requirement and user needs • Submits draft qualification standard and record of proceedings to convening authority • Monitors follow-up activity
Board coordinator	• Convenes members • Invites external representatives if appropriate • Organizes all facilities • Assembles materials • Distributes pre-board material • Initiates action for board assembly, proceedings, adjournment
Command representative(s)	• Provide continuity with related qualifications • Brief board on results of validation studies • Brief board on Command training policies and strategic guidance
User agency representative(s)/ subject matter expert(s)	• Provide input on operational doctrine, practices, procedures • Analyze, interpret tasks from user perspective • Ensure standards and conditions of POs meet requirements • Provide user reference material • Ensure user needs are addressed
IT&E establishment representative(s)	• Provide continuity to Design and Development phases • Test clarity of POs and other aspects of standard from instructional perspective
Training Development Officer	• Brief and advise board on IT&E policies and CFITES processes • Assist board with construction of qualification standard

Additional advisors (as required)	• Provide guidance, clarification on specific issues, eg:
	  D Pers Plan staff: specifications
	  DRET staff: training policy

Board Secretary (one of the members)	• Maintains record of deliberations • Completes draft qualification standard, • Prepares record of board proceedings

DEVELOPING SCALAR DIAGRAMS

Organizing Selected Tasks

1. Once the standards board has decided which tasks require training, the tasks are organized in a fashion that will assist the board in writing performance objectives. Preparing a scalar diagram is the recommended way to organize tasks. Scalars provide a rational structure that reflects how a profession perceives task relationships, which is useful for guiding the development of PO conditions and standards. They allow standards boards to see the job as a whole, along with the interdependencies among parts of the job, and they also show trainers what must be learned and the most effective sequence of operations.

2. Procedure: Arrange tasks in groups and then organize each group into a task hierarchy based on task dependence (build up from the bottom by asking questions such as what do I do next, or what must I do before I can complete this task or step?) and by performance (build from left to right). For instance, in the example below, task 2f(4), *Produce an Operations Order* is a component of task 1a. It is further broken down into sub-task 2f(3), *Produce a Combat Estimate*, which consists of sub-sub-tasks 1h(1), *Apply the Intelligence Process* and 1k, *Conduct a Reconnaissance*. Subject matter expertise (SME) guides the decision to classify tasks or groupings of tasks as a PO or an EO. In the example scalar, *task 1a* may be considered the PO and each component an EO.

3. The following example illustrates the scalar development process. The specialty specification contained 34 tasks of which 20 tasks were selected for instruction. These 20 selected tasks were sorted into three groups by the work areas of operations, administration and training. After several revisions of tasks among the groups, 12 tasks were felt to group together under "operations," six tasks under "administration" and two tasks under "training." The scalar for the "operations" group was constructed as follows:

Scalar of the "Operations" Group of Tasks
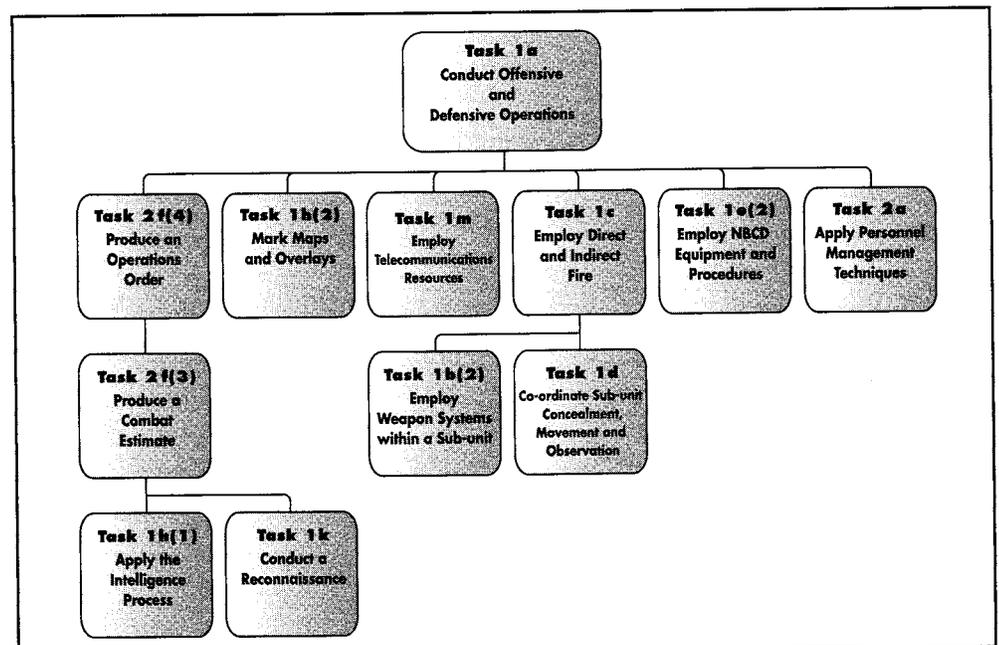
Narrative Summary of the Development of the "Operations" Scalar:

1. It was agreed by all members that Task 1a, "Conduct Offensive and Defensive Operations", depended upon all other tasks in the group and so it was placed at the top.

2. It was suggested that Task 2f(3), "Produce a Combat Estimate", should be the first task to be done. Others added that a reconnaissance should be made, Task 1k, before producing an estimate and that Task 1h(1), "Apply the Intelligence Process", should be considered before making a reconnaissance.

   It was decided that producing an estimate depended on these two tasks. These three tasks were below and to the left of the top task.

3. It was accepted that Task 2f(4), "Produce an Operations Order", depended upon the estimate and so it was placed above the previous three tasks. It was decided that Task 1h(2), "Mark Maps and Overlays", was usually performed after producing operations orders and that telecommunications systems were frequently employed, Task 1m, to convey orders and control following tasks. These tasks were placed to the right of the previous four tasks.

4. After a debate, Task 1c, "Employ Direct and Indirect Fire", was accepted as the next task and it depended upon being able to employ weapon systems, Task 1b(2), and co-ordinate sub-unit concealment, movement and observation, Task 1d.

5. The employment of NBCD equipment and procedures, Task 1e(2), was considered to be a special or uncommon operation and so it was placed to the right of the last three tasks.

6. Task 2a, "Apply Personnel Management Techniques", was placed on the right, although it was argued that it could have been placed on the bottom left end to illustrate that it is fundamental to conducting operations. It was kept on the right since it was thought by most that it was best learned and assessed within the context of the other tasks.

Notes on Scalar Development

1. If there are few tasks within a group or the tasks are likely to form a straight line of dependency (top to bottom) or progress (left to right), simply list the tasks. If there is no need for a scalar, do not build one.

2. During this process, it is common for tasks to be reorganized completely within a group, re-assigned to other groups, set aside to form new groups, merged into fewer groups, or even re-assessed as not requiring instruction.

3. It is normal to revise previous groups as each new group of tasks is organized.

4. Once all groups are organized into scalars, it is possible to sequence the groups and assign tentative performance statements to them before proceeding to the next process, writing POs.
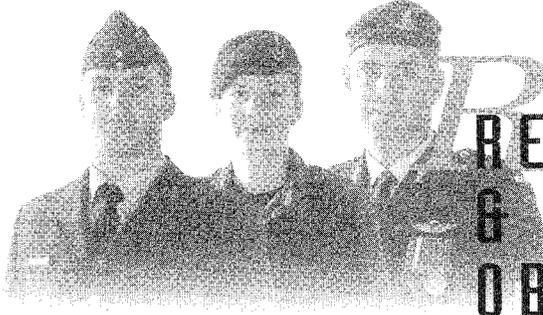
RECOMMENDED FORMAT & SAMPLE PERFORMANCE OBJECTIVE

The recommended standard format for Performance Objectives (PO) is depicted below. The data may be presented in sequential paragraph format or in tabular format depending on the needs and preferences of the Managing Authority.

PO Number.
Reflects the general sequence in which the POs should be instructed.

Performance Statement.
Reflects the primary task or the sum of the tasks being performed.

Conditions.
The salient job conditions for each task and for the group of tasks are combined into a single list.

Standard.
The job standards for each task and for the group of tasks must be determined, combined where applicable, and described or linked to a specific, operational reference.

Reference Numbers.
This is a list of all the key publications used to establish the Standard. Publication numbers are identified according to the following :

> G-series documents — Training guidance documents
>
> A-series documents — Canadian Forces publications
>
> B-series documents — Other Canadian government/Foreign Military publications
>
> C-series documents — Civilian agency publications

Specification numbers.
It is recommended that specification numbers be included as part of the standard statement to ensure all tasks and skills are incorporated into the QS.

Remarks.
Remarks and supporting detail, as required, to clarify any of the above elements of the PO. Limitations, if determined, may be included in this section.

Note: An example of a standard format PO is illustrated below, and an explanation of the essential elements of a PO is provided to clarify how and why effective POs are developed.

SAMPLE PO
[with explanatory
notes]

PO 001

1. Performance: Evaluate Sea Container (SC) condition.

2. Conditions:

Given:
    a. Sea Container (SC);

    b. Maintenance Stands (to be used on hard standing ground only);

    c. Step ladder;

    d. Container handling equipment (CHR);

    e. Personal Protective Equipment;

    f. Flash light;

    g. Straight edge;

    h. Basic and specialized tools IAW C-90-242-000/NJ-002 Section 3;

    i. Assistance;

    j. International Convention for Safe Container (CSC);

    k. Safe Containers Convention Act;

    l. Sea Container Inspection sheet available in the Sea Container Management System (SCMS) as a module of the National Material Distribution System (NMDS); and

    m. Institute of International Container Lessons, LTD (IICL) Inspection reference material C-90-242-000/MS-001.

Denied: Nil

Environmental: All conditions day and night.

3. Standard: The technician shall, while paying due attention to safety policies and environmental directives:

    a. Conduct pre-inspection liaison by:

      (1) advising user to de-stuff and remove all foreign debris from interior and exterior of the Sea Container for visual inspection;

      (2) advising unit of heavy lifting requirement for inspection of undercarriage; and

      (3) advising user of inspection schedule.

    b. Task 2 — Visually inspect SC for damage in order to:

      (1) Task 1: Assess cleanliness IAW C-90-242-000/MS-002 with specific attention to:

      (2) Cleanliness criteria (section 1,2,3 and 4); and

      (3) Cleaning methods (section 5); and

    c. Task 3 — Assess damage, wear and non-conforming repairs IAW C-90-242-000/NJ-001, C-90-242-000/NJ-002 and C-90-242-000/MS-001 by:

      (1) using established procedures for SC inspection; and

      (2) using the process for measuring specific and unusual cases.

Explanatory Notes for PO 001: Evaluate Sea Container (SC) Condition

PO 001 is one Performance Objective (PO) from Occupational Specialty Specification (OSS) Sea Container Inspector, qualification code AIMQ. The 001 number indicates this is the first in a series of POs and this PO should be instructed first. This PO comprises the main elements for a complete standard — paragraph 1: performance statement; paragraph 2: conditions for job performance; and paragraph 3: standard that contains the task number, standard statement and the standard of expected performance on the job by the member (i.e., how/how well).

Paragraph 1 — This is the first PO for this qualification and is also the first performance of a Sea Container Inspector in operational conditions. The individual who possesses this specialty must inspect then certify a Sea Container (SC). In this PO the individual must determine the suitability of a SC for use. Thus, the performance statement, "Evaluate Sea Container (SC) condition", was created to describe the initial activity of a Sea Container Inspector.

Paragraph 2 — This is a list of realistic job conditions specific to the tasks in this performance. These comprise real job, not training, expectations and are what must be and are available to any SC Inspector performing this task. Where applicable, the PO refers to a checklist of equipment rather than an endless list of items. This is beneficial should the items in the checklist change because the PO is not affected. The references are pertinent to the PO and are in the standard paragraph. The environment reflects where and when an individual is required to perform. In this case, it could be anytime, either operational or static, day or night.

Paragraph 3 — The standard statement preamble states who is doing the performance. This qualification is for Traffic Technicians or Material Technicians and thus the term "the technician" includes both MOCs. The standard preamble does not refer to "the candidate or trainee" as it focuses on who is performing the job. Additional info such as environmental directives amplify the performance by identifying that they are a factor to be considered in order to properly complete the performance.

The standard sub-paragraphs contain the task number from the OSS; the standard to be performed and the how/how well the standard is to be performed. The standard commences (paragraph 3a) with the first activity a SC Inspector must do in order to achieve the performance. It does not have a task number in front of it as it is not a discrete task in the OSS but it must be performed by the SC Inspector before the remainder of the PO can be performed. A new task does not have to be added to the OSS as the performance is "general specification" in nature and would not require extensive training. It supports subsequent performances, as the SC Inspectors cannot evaluate the SC condition until the customer is asked to remove the material in and around the SC, etc. It is part of the process for this PO.

The breakdown of the remainder of the PO is a description of the standard of the performance and does not simply repeat the task statement. The purpose of writing a job standard is to describe what an individual must do in order to accomplish a task. For example, paragraph 3b (1) refers to task one, which reads "Visually inspect container for cleanliness" in the OSS but the standard of performance for this task requires the SC Inspector to "Assess cleanliness". The purpose of a standard is to specifically describe what an individual is doing on the job. If the task statement is complete and accurately describes the required performance standard then it may be used in the performance standard. However, if the task is not a complete performance description, the actual standard of performance for that task or series of tasks must be described.

The remaining paragraphs are self-explanatory.
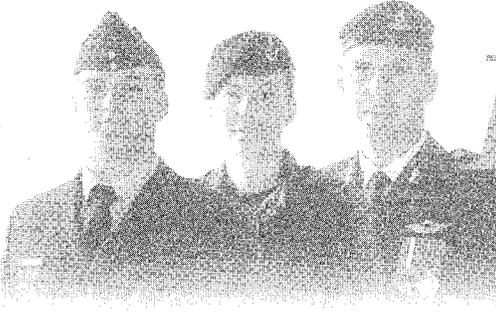
RECOMMENDED FORMAT & SAMPLE EDUCATION OBJECTIVE

The recommended standard format for Education Objectives (EdO) is depicted below. The data may be presented in sequential paragraph format or in tabular format depending on the needs and preferences of the Managing Authority.

EdO Number. Reflects the general sequence in which the EdOs should be learned.

Performance Statement. A statement of performance stated in terms of cognitive skill that represents the desired knowledge level or attitudinal element required to meet an operational requirement, a functional or departmental capability.

Conditions. A statement of what is provided to cue or support the performance.

Standard. A statement that sets the scope of content that satisfies the objective and sets the quality of performance in terms of the processes or products that apply to the objective.

Specification knowledge numbers. It is recommended that specification knowledge numbers (if applicable) be recorded in this paragraph. They identify the knowledge on which the EdO is based and are derived from the performance requirement.

References. A list of the key documents or publications that are provided in the conditions or used in achieving the standard.

Remarks/Curriculum Considerations. Remarks, as required, identify significant limitations on learning or evaluating specific knowledge and attitudes in the objective.

Note: A standard format EdO follows.

Sample Education Objective (EdO)

EdO 202 (adapted from Army DP 2 — CLFCSC)

1. **Objective.** Apply Army doctrine and plans to operational situations.

2. **Conditions.** Given:

   a. study material;

   b. interaction with instructor /mentor.

3. **Standard.** The officer shall:

    a. apply Army doctrine as it relates to mission command, manoeuvre warfare and battle procedure to include evaluating:

      (1) operations;

      (2) tactics;

      (3) command and control;

      (4) sustainment;

      (5) information operations/warfare;

      (6) force protection;

      (7) firepower; and

      (8) training

    b. assess the principles of war and establish how they are applied at the tactical level i.e., within a battle group and brigade group context;

    c. incorporate the main components of Land Force tactical doctrine;

    d. incorporate the conduct of land operations at the tactical level;

    e. establish the implications of operating within specific environments;

    f. establish the aims, types and characteristics of unique operations to include:

      (1) military forces in domestic enforcement operations;

      (2) assistance to other government departments; and

      (3) peace support operations.

    g. outline the role and objectives of non-government organizations.

4. **Specification Knowledge Numbers.** AK14, BK1, BK13, BK27, BK34, BK36, EK16

5. **References:**

    a. B-GL-300-002-FP-000, Conduct of Land Operations — Operational Level;

    b. B-GL-300-002/FP-000, Land Force Tactical Doctrine;

    c. ATP 35B; B-GL-321-003/FP-001, The Battle Group in Operations;

    d. A-PD-131-002/PT-001, Leadership Volume 2, The Professional Officer

    e. (continue with remaining references...)

6. **Remarks/Curriculum Considerations.** This professional military education can be addressed through Problem Based Learning, i.e. scenarios and case studies etc, incorporating the requirements of the standard statement. This EdO may be delivered in a non-residence CBT/WBT format.

Control Documents for Educational Programmes or Curricula

Recommended Format. A standard QS format, as described in Part 5 of this manual may be used for educational programmes and courses. Alternately, a tabular representation, as depicted below, may be used. At a minimum, the document should include the items listed below.

Chapter I — General

Authority: This programme/course was developed under the authority of (list Managing Authority (MA)). It is effective on receipt and supercedes (list previous documents). Suggestions for change shall be forwarded to the MA through the normal chain of command.

Qualification: Title and tracking number (Qualification or course identification code, as provided by DMHRR and HRMS MITE).

Programme/Course Title & Description: Describe the purpose and intended use of the course, as well as the target audience and pre-requisites, if any. Describe desired outcome and qualification or course credit granted on completion of the course requirements.

Limitations/constraints: Identify significant limitations on learning or evaluating specific knowledge and attitudes associated with the objective.

Chapter II Education Objectives

Education Objective Statement with Conditions & Standards
Specification Numbers
References
Remarks — curriculum considerations, resources required, and limitations or constraints.

Paragraph or tabular format may be used to list the EdOs. In the example below, the last two columns have been added to facilitate instructional plans.

Curriculum plan

EDO #	REFERENCES	REMARKS	METHODOLOGY	TOT
- Objective - Conditions - Standard - Specification numbers	Include refs for each topic/ subject	- Limitations - Curriculum considerations e.g., links to other POs, EdOs, or courses - Resources - Recommended sequence - Assessment factors		
Key:	AA — Lecture, Academic Staff	AM — Lecture Military Staff	L — Lab, demonstration	S — Seminar, case study
	T — Tutorial	I — Individual preparation	E — Exam/test	TOT — total time

Note: In an annex to the document, provide a list of all instructional elements as defined during the instructional analysis, whether included for instruction or not; this information is used for validation purposes.

POST BOARD ACTIONS FINALIZATION CHECKLIST

1. Performance — General Questions	
• Have all tasks that are derived from the task description/specification and that require instruction been included in POs?	
• Have all tasks and their disposition (selected or rejected for instruction) been listed?	
• Have all tasks selected for instruction been prioritized?	
• Do all POs match the intent of the tasks in the task description/specification?	
• Does each PO describe what the graduate must do in an operational setting?	
• Is each PO internally consistent, with no contradictions between performance, conditions and standard?	
2. Performance — Detailed Questions	
• Is the performance expressed by one verb with only one meaning or interpretation?	
• Does that one verb describe an action that is observable and measurable?	
• Does the action describe what actually happens on the job?	
3. Conditions	
• Are the important situations or conditions under which the performance is carried out described in the PO?	
• Are the situations or conditions those that are experienced in the actual job setting?	
• Do the conditions include what supervision, assistance, reference, tools, etc. are normally provided on the job, as well as those that are specifically denied?	
• Are only those conditions that are relevant to the performance included?	

POST BOARD ACTIONS FINALIZATION CHECKLIST [CON'T]

4. Standard

• Has the standard of performance been specified for each PO?	
• Is the standard based on the requirements of the job?	
• Does the standard define precisely the process and/or product expected of the learner in terms of quantity, accuracy, time and sequences as applicable?	
• Is the standard free of ambiguity and subject to minimal interpretation/misinterpretation by potential users of the qualification standard?	

5. References

• Are key references provided?	
• Have essential references been included for each PO?	
• Are references consistent with each other?	

6. Tasks

• Have the relevant tasks been identified for each PO?	
• Do the specification task numbers conform to the governing specification?	

7. Supporting Elements

• Have all supporting elements been identified?	
• Have knowledge and skill numbers, identified from the specification, been included for guidance of design and development staffs?	

8. Limitations/Constraints

• Have the possible limitations/constraints been considered and documented by the board?	

NOTES