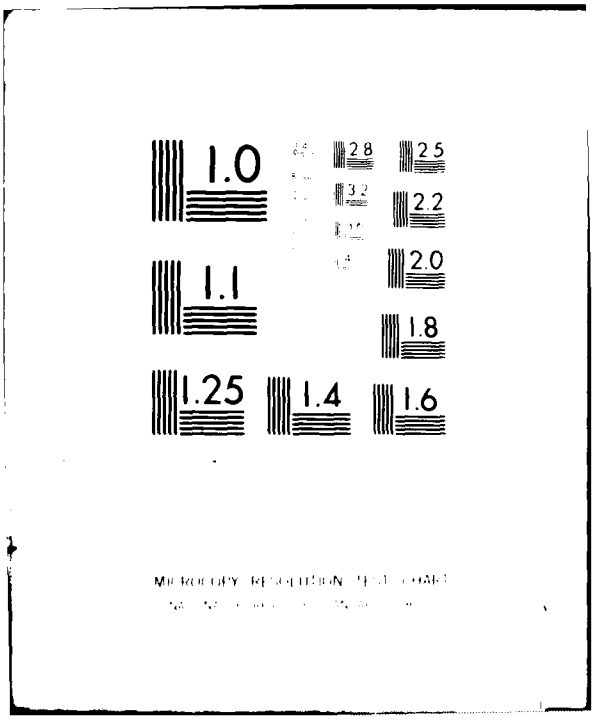
AD-A098 342 ARMY TRAINING AND DOCTRINE COMMAND FORT MONROE VA F/G 5/9
DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF INDIVIDUAL TRAINI--ETC
FEB 79 A LONGO
UNCLASSIFIED TRADOC-REG-350-2 NL

END
DATE FILMED
6 81
DTIC


1.0
2.8
2.5
3.2
2.2
1.1
2.0
1.8
1.25
1.4
1.6

LEVEL II

8

DTIC
ELECTE
APR 30 1981
S D

TRADOC Reg 350-2

D

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
Fort Monroe, Virginia 23651

TRADOC Regulation
No 350-2

23 February 1979

Training
DEVELOPMENT, IMPLEMENTATION AND EVALUATION OF INDIVIDUAL TRAINING

AD A098342

		Paragraph	Page
CHAPTER 1	GENERAL		
	Purpose	1-1	1
	Applicability	1-2	1
	Responsibilities	1-3	1
	Glossary	1-4	4
	References	1-5	4
CHAPTER 2	CONCEPT OF TRAINING		
	Purpose	2-1	7
	Description of the Army Training System	2-2	7
	Training Development System	2-3	8
CHAPTER 3	INDIVIDUAL TRAINING		
	Objective	3-1	13
	Focus	3-2	13
	Priorities	3-3	13
	Analysis and Design	3-4	15
	Training Location (Site)	3-5	17
	Training Form (Setting)	3-6	18
	Course Management Plan	3-7	21
	Course Standardization Document	3-8	22
	Accountability	3-9	22
	Evaluation	3-10	23
	Resources	3-11	24
	Mobilization	3-12	25
CHAPTER 4	ARMY EXTENSION TRAINING		
	Purpose	4-1	26
	Concept	4-2	26
	Job Training Package Components	4-3	27

DTIC FILE COPY

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

81 4 30 062

		Paragraph	Page
CHAPTER 5	COMMON JOB AND TASK MANAGEMENT		
	Purpose.....	5-1	29
CHAPTER 6	TRAINING FOR DEVELOPMENTAL SYSTEMS		
	Purpose.....	6-1	30
	Training Concept.....	6-2	30
	Letter of Agreement (LOA) and Required Operational Capability (ROC).....	6-3	31
	Development of Individual Training.....	6-4	32
	Evaluation of Individual Training for Developmental Systems.....	6-5	35
CHAPTER 7	RESOURCE MANAGEMENT (To Be Published)		37
APPENDIX A	AUTOMATED SUPPORT SYSTEMS		38

Accession For
NTIS GRA&I
DTIC TAB
Unannounced
Justification
By
Distribution/
Availability Codes
Dist | Avail and/or Special
A

DTIC
ELECTE
S APR 30 1981 D
D

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TR Reg 350-2	2. GOVT ACCESSION NO. AD-A098 343	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Development, Implementation and Evaluation of Individual Training,		5. TYPE OF REPORT & PERIOD COVERED Final, , , to,
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Dr. A. Longo		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Training Developments Institute ATTN: ATTG-DOR (Dr. A. Longo) Fort Monroe, VA 23651		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS D741
11. CONTROLLING OFFICE NAME AND ADDRESS (Same as Item 9)		12. REPORT DATE 23 Feb 1979
		13. NUMBER OF PAGES 42
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) 14 TRADOC-REG-350-2		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution is unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Training System Individual Training Army Extension Training Developmental Systems Instructional Systems Development		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This document provides policy, defines responsibility, prescribes criteria and outlines guidance for the development, implementation and evaluation of Army individual training. It is intended to be the "umbrella" regulation for individual training.		

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

CHAPTER 1

GENERAL

1-1. Purpose. This regulation provides policy, defines responsibility, prescribes criteria, and outlines guidance for the development, implementation and evaluation of individual training.

1-2. Applicability. This regulation is applicable to all TRADOC schools, training centers and activities which have individual training missions and responsibilities for officer or enlisted specialties. It is intended to be the "umbrella" regulation for individual training.

1-3. Responsibilities.

a. Commander, TRADOC will--

(1) Designate school proponency for systems, MOS, and subject and functional areas.

(2) Provide policy and guidance for the development, implementation and evaluation of individual training to meet training needs Army-wide.

(3) Evaluate the service schools' training development products for conformance to the regulation.

b. Commander, Army Training Support Center will--

(i) Establish and operate the Army Extension Training System.

(2) Coordinate management for TEC, TV/MOPIC (DAAPP) and ACCP programs in support of the Job Training Package development efforts of the schools. Validate and support schools' training device and training material requirements (to include audiovisual materials, e.g., TV tapes, VGTs, slides).

(3) Operate the Skill Qualification Test system in support of field Army and TRADOC school training management and development needs as well as those of DA DCSPER and MILPERCEN qualitative personnel management needs.

(4) Provide guidance and assistance to TRADOC schools and centers for the development of the training subsystem for evolving materiel systems.

(5) Provide Skill Performance Aid (SPA) support to the schools.

(6) Provide the TRADOC/DARCOM interface on SPA requirements.

(7) Support TRADOC school's development of training materials under the JTP concept; provide contractual assistance, reproduction, distribution and automated information management support.

(8) Monitor the effectiveness and efficiency of TRADOC developed individual training systems in Army units in the field and provide feedback to HQ TRADOC, proponent schools, the Army Training Support Center, and other TRADOC agencies.

(9) Develop and implement training management systems appropriate to Army units in the field, both active and Reserve Component.

(10) Act as the overall manager of the common job and task system to include approval for selected media, reproduction and distribution of supportive training materials for common jobs and tasks.

c. Commandants, TRADOC schools will--

(1) Develop individual training for each officer (commissioned and warrant) and enlisted specialty for which they are proponent in accordance with TRADOC directives.

(2) Maintain constant evaluation of the training development products.

(3) Implement institutional training appropriate for conduct at the service school.

(4) Develop individual training materials and other training support under the JTP process for export to the field through the Army Extension Training System.

(5) Provide individual training courses for implementation in Army Training Centers.

(6) Provide individual training courses for implementation in USAR schools and USAR Training Divisions.

(7) Be prepared to enter task analysis data into the Training Developments Information System (TDIS).

(8) Maintain and provide supportive training materials for jobs/tasks for which they are proponent.

(9) Serve as proponent for common jobs and tasks by:

(a) Recommending tasks which may be common.

(b) Maintaining-up-to-date job and task analyses and supportive training materials including JTP for clusters of common tasks.

(10) Use to the maximum extent consistent with job/task analyses those common tasks published by Commander, ATSC.

d. Commanders, Army Training Centers will--

(1) Implement training courses provided by TRADOC schools.

(2) Provide experts (job/subject matter) to assist TRADOC schools' training development programs as required.

1-4 Glossary. (See TRADOC Circular 350-3.)

1-5. References:

a. AR 11-28, Economic Analysis and Program Evaluation for Resource Management.

b. AR 70-27, Outline Development Plan/Development Plan/Army Program Memorandum/Decision Coordination Paper.

c. AR 71-2, Basis of Issue Plan.

d. AR 71-3, Force Development & User Testing.

e. AR 71-9, Materiel Objectives and Requirements.

f. AR 350-1, Army Training.

g. AR 350-XXX, New Equipment Training and Introduction (TBP).

h. AR 351-1, Military Education and Training.

i. AR 351-20, Army Correspondence Course Program.

j. AR 611-1, MOS Development & Implementation.

k. AR 623-1, Academic Evaluation Reports.

l. AR 700-127, Integrated Logistic Support.

m. AR 1000-1, Basic Policies for Systems Acquisitions.

n. DA Pam 11-25, Life Cycle System Management Model for Army Systems.

o. FORSCOM/TRADOC Reg 135-3, Army National Guard and Reserve Schools.

p. TRADOC Reg 11-3, Current Year Programing Changes.

q. TRADOC Reg 11-4, Installation Contract and Status of Operating Resources (SOR).

r. TRADOC Reg 11-8, Cost and Operational Effectiveness Analysis in the Materiel Acquisition Process.

s. TRADOC Reg 71-9, User Testing.

t. TRADOC Reg 351-4, Job and Task Analysis.

u. TRADOC Reg 700-1, Integrated Logistic Support.

v. TRADOC Cir 70-1, Training Device Development.

w. TRADOC Cir 108-1, TASC Training Device System.

x. TRADOC Cir 350-2, Officer Job/Task Analysis and Training Development. (TBP).

y. TRADOC Cir 350-3, Individual/Collective Training and Development Glossary.

z. TRADOC Cir 351-1, Common Job and Task Management.

aa. TRADOC Cir 351-2, Army Correspondence Course Program Subcourses.

bb. TRADOC Cir 351-3, Individual Training Plan.

cc. TRADOC Cir 351-5, Skill Qualification Tests (SQT) Policy and Procedures.

dd. TRADOC Cir 351-7, Job Training Package .

ee. TRADOC Cir 351-8, Individual and Collective Training Plan for Developing Systems, Policy and Procedures .

ff. TRADOC Cir 351-28, Soldier's Manuals, Commander's Manuals, and Job Books

gg. TRADOC Pam 11-11, TRADOC Resources Management System.

hh. TRADOC Pam 71-10, Cost and Training Effectiveness Analysis Handbook.

ii. TRADOC Pam 350-30, Interservice Procedures for Instructional Systems Development.

jj. TRADOC Pam 351-4, Job and Task Analysis Handbook

kk. TRADOC Suppl 11-28, Economic Analysis and Program Evaluation for Resource Management.

ll. DARCOM/TRADOC SPA Policy Statement.

mm. Training Systems Manager's Handbook.

nn. USATSC Handbook, SQT Guidelines for Development of Skill Qualification Tests.

oo. Technical Documentation and Training Acquisition Handbook.

pp. Training Extension Course Manager's Guide Book (Jan 1978).

qq. TRADOC Resource Factor Handbook.

rr. TRADOC Cost Analysis Studies of MOS Training.

CHAPTER 2

CONCEPT OF TRAINING

2-1. Purpose. Training is developed as one solution to an identified or clearly documented performance problem that arises from a lack of skills and knowledges. Because of the time and resources which must be expended to develop and conduct training, a very careful and thorough analysis of the job, the task and the performance must be done before training is developed. The application of a training developments system provides a systematic method for developing job relevant training, and at the same time, provides certain products that can be used to evaluate both the training and the trainee. Examples of such products are the Soldier's Manuals (SM) and Skill Qualification Test (SQT). Soldier's Manuals list specific job tasks and can be used to determine if soldiers are being trained for the correct tasks. The SQT provides a measure of a soldier's ability to perform on the job.

2.2. Description of the Army Training System. The Army Training System, of which individual training is a subsystem, is an integrated system of both individual and collective training conducted both in the training base (TRADOC schools and training centers) and in units. TRADOC schools provide support for training in units -- including individual training. The central purpose of the Army Training System is its contribution to the operational capability of the Army. The Army training system enlarges the scope of responsibilities of service schools who must develop career or life cycle training plans for each MOS, systems and unit for which they are proponent. Career training plans are imperative to an effective integration within a given MOS of training in units and training in schools. The career training plan responsibility must be integrated with a total system development responsibility so that when new systems are fielded, typical serving soldiers can operate them in a manner to obtain the acquired system capability. Such a requirement imposes considerable burdens on the school to ensure an effective development of a training subsystem during the system acquisition effort. Finally, a training system, to be effective, must contain sufficient accountability and feedback to measure soldiers and leaders against their responsibilities and to support a viable self-correcting mechanism.

2-3. Training Development System. TRADOC Pam 350-30, Interservice Procedures for Instructional Systems Development, describes one of several viable ISD systems which may be used to develop instruction. Regardless of which instructional system model a school chooses to follow, its approach must contain certain key characteristics. These characteristics are:

a. The adherence to a systematic and orderly process of training program development.

b. The building of instructional programs on a firm foundation of precisely defined job performance needs and training data.

c. The specification of instructional objectives in terms of behaviors, skills, and knowledges required for actual on-the-job performance.

d. The structuring and sequencing of instruction to provide an integrated skills building program of learning experiences commensurate with training needs, student abilities, and on-the-job performance requirements.

e. The selection of instructional delivery systems on the basis of training effectiveness, state-of-the-art technology, relative cost-effectiveness, and system life cycle considerations.

f. The development and use of performance-based evaluation criteria, designed to measure and ensure the effectiveness of instruction rather than to discriminate among trainees.

g. The validation of the program (using a representative sample drawn from the target population) to ensure its effectiveness prior to full-scale implementation.

h. The provision of appropriate feedback channels to facilitate on-going refinement, updating, and continuing effectiveness throughout the life cycle of the program.

TRADOC Pamphlet 350-30, Instructional Systems Development, is a typical model for the development of instruction and possesses attributes for the system above. It, however, is being refined and supplemented to be more Army process/product oriented (e.g., TRADOC Regulation and Pamphlet 351-4, Job and Task Analysis). Further refinements will result in TRADOC publications which will address each additional phase and focus the procedures on current TRADOC guidance and policy. The five key phases of the Army Training System together with a description of the

deliverables and management requirements are listed at Table 2-1. While some relationship exists, it was not intended that the deliverables and management requirements be perfectly correlated as they are stated below.

TABLE 2-1. ARMY TRAINING SYSTEM DELIVERABLES/MANAGEMENT REQUIREMENTS
(by Phase)

PHASE	DELIVERABLES	MANAGEMENT RQMT
I ANALYZE	o Current target population data o Job background information/data, job entry requirements o Validated task inventory of all tasks performed in a specific MOS o List of tasks selected for training o List of site recommendations by task o Task analysis data/worksheets o Job performance measure input o Audit trail documentation	o Job and Task Analysis Plan o Approval of Job and Task Analysis Plan o Allocation of resources for the conduct of this phase o Management support o Monitoring of plan o Train all personnel in analysis/ training developments process (basic requirement) o Approve tasks selected for training

TABLE 2-1 (Continued)

PHASE		DELIVERABLES	MANAGEMENT RQMT
II	DESIGN	o *Final terminal learning objectives for each critical task* o Test items to measure each terminal learning objective o Entry level/behavior of target population and test to verify assumptions o Sequence and structure of learning objectives o *Final site/setting selection* o Initiate media selection o ARPRINT information submitted by service school to HQ, TRADOC	o Provide Commandant's training strategy o Identify degree of fidelity available in testing situation o Establish interface with analysis o Ensure each task is testable o Identify need for preliminary instruction o Identify dependence of task relationships o Design testing apparatus o Design instructional packages o *Initiate development of training products* o Insure CT interface/continuity
III	DEVELOP	o The classification of learning objectives by learning category and the identification of appropriate learning guidelines o *Refinement of resource requirements for completion of training developments process* o Media selection o New training developments products based upon site/setting selections	o Review to insure objectives are properly classified o Interface resource requirements/ constraints with developmental process o Develop instructional material guidance o Insure all instructional materials are validated before dissemination to the field

TABLE 2-1 (continued)

PHASE	DELIVERABLES	MANAGEMENT RQMT
IV TRAIN	o Implement training (institutional/unit)	o Insure all requirements necessary to conduct training are well planned for and available o Insure the trainers are trained o Insure IC interface/continuity o Insure trainers do not change training products to meet their desires
V EVALUATE	o Report on internal and external systems approach to training development's process o Report on training results of training products (i.e., effectiveness) o Provide feedback to training developments system to revise necessary products/procedures based on empirical data o Internal evaluation plan o External evaluation plan	o Provide necessary resources for evaluation process o Provide and enforce a feedback mechanism for revision in the training developments system o Approval of internal and external evaluation plans

CHAPTER 3

INDIVIDUAL TRAINING

3-1. Objective. The foundation of the Army's tactical training philosophy is the "How to Fight" doctrine. The Army Training and Evaluation Programs (ARTEP), prepared by proponent schools, provide the method of training and evaluating each unit in the performance of its collective mission in accordance with the applicable "How to Fight" doctrine. The individual training of soldiers in a unit must contribute to the accomplishment of the collective missions and training of the unit. There is a direct relationship between individual training and collective training. Collective training prepares cohesive units to accomplish their missions/tasks and survive on the battlefield. This form of training is, in a large part, the responsibility of the officer corps. Individual training develops and sustains within each soldier, officer and enlisted, those knowledges and skills required to perform specific duties and tasks related to his assigned branch, specialty, skill level and duty position. It is the basis for development of collective proficiency at squad, section, crew, team and higher organizational levels; therefore, it is a prime contributor to the operational readiness of the force. Training the soldier to attain and sustain job/mission proficiency must receive the highest priority in the TRADOC.

3-2. Focus. Individual training developed by TRADOC schools will focus on the needs of the forces in the field. The aim of training is to develop and sustain the proficiency of the soldiers and units of the Army. The curricula of individual training will be derived from the systematic analysis of soldiers' jobs, the job environment, the weapons and other systems with which soldiers interact in the process of accomplishing the unit mission. Commandants of TRADOC schools will develop training to support the officer and enlisted specialities for which they are proponent, wherever incumbents in these specialties are located throughout the Army. At any point in time, the student body of a TRADOC school consists of all officer and enlisted soldiers, active Army and Reserve Components, serving in or holding specialties or jobs for which the school is training proponent. This responsibility includes: determination and analysis of critical job tasks requiring training; development of training to instill and sustain proficiency in those tasks; and a means to monitor proficiency, in all forms of training with feedback to the soldier, his supervisor and commander, and the proponent school.

3-3. Priorities. Individual training will be developed in accordance with the priorities herein established. No resources will be applied to the development of training described under priorities three and four so long as requirements under priorities one and two are not fully met.

a. Priority One. Training to develop and sustain job proficiency, i.e., the efficient performance of critical job tasks, will receive the highest priority treatment within TRADOC. These are the tasks directly related to individual and collective proficiency and accomplishment of the unit mission, to include the effective employment, operation and maintenance of critical weapons and other systems. Training of TRADOC school and training center staff and faculty is included in this priority. Likewise, this priority will apply to products produced for use in the extension training system to train new tasks and sustain job proficiency. Since it is not possible to satisfy all extension training requirements, the following provides additional prioritization criteria to guide development effort. Extension material will be developed on critical tasks in the following order:

(1) Critical ARTEP related SM tasks not trained in the institution.

(2) Lessons which reinforce critical ARTEP related tasks trained in the institution.

(3) Lessons which support OPMS/EPMS training requirements.

(4) Lessons which solve valid training requirements in an on-the-job/in the unit setting for both Active Army and Reserve Components. It is necessary to note that Reserve Component training must be prepared as a "stand-alone" package.

(5) Lessons which replace or support existing conventional training in an institutional setting.

b. Priority Two. Training to develop and sustain knowledges and skills in subject or functional areas mandated by statute or Army Regulations. Training in the provisions of the Uniform Code of Military Justice is one statutory requirement. Proponency for statutory and regulatory training requirements is identified by TRADOC Cir 351-1, Common Job and Task Management. Each proponent is responsible for analyzing each requirement in coordination with Headquarters, DA, or other authority to derive appropriate criteria to guide the development, administration and evaluation of related training. As a general rule, criteria for training derived from statutory and regulatory requirements will vary for different categories of soldiers based on status (officer or enlisted), grade, and in some cases, specialty and job.

c. Priority Three. Specialty related training beyond that demanded to develop and sustain proficiency in critical job tasks. For example, a knowledge of basic electronics applicable to vehicular electrical systems or the theory of internal combustion engines cannot be defended as crucial to adequate job performance by an automotive mechanic, especially at the

lower skill levels. However, such training does have the potential of broadening a soldier's range of job competencies when coupled with job experience. Such training will not be developed, updated or redesigned by any school at the expense of priority one or two training requirements.

d. Priority Four. Any training not described in priorities one through three. While training in this category may be remotely related to Army service, specialty or job, it will not be provided so long as requirements for priority one and two training are not fully met.

e. Exemption: Socialization skills as found in basic training to permit cultural adaptation to Army life is exempt from the above priorities.

3-4 Analysis and Design. Training materials developed to meet priority one training needs (paragraph 3-3) using the JTP process will be designed into job training packages, each of which will be designed to train explicitly defined jobs (duty positions) within specialties. The Army relates itself most directly and meaningfully to the soldier through his job and its supporting training. His job gives substance and purpose to his membership in his unit and the Army. Soldiers proficient in their assigned jobs provide the foundation for collective proficiency, ARTEP proficiency and force readiness. Thus, training development products must be derived from the requirements of those jobs to which soldiers are likely to be assigned, to include Reserve Component units.

a. Analysis of Field Requirements. For jobs and systems currently in existence (developmental systems are discussed in Chapter 6), there is a wealth of information on duties and tasks performed. The problem that confronts the training developer is how to keep the content of the job training course at a manageable level. Current and projected resource levels dictate that task lists be constrained to those tasks essential to mission performance and battlefield survivability. However, an even better reason than resources for constraining task lists is that soldiers only retain skills that are practiced. Soldiers will not maintain proficiency in tasks seldom performed or not performed in the first months on the job. For these reasons it is essential to obtain objective data on the number of soldiers assigned to the major jobs of the specialty and on the criticality of each task which is a candidate for training. All such information must be documented and maintained by the service school.

b. Performance Orientation. Effective instructional development in the Army requires that training be based on the performance of the precise tasks which the soldier will perform on the job. A detailed task analysis will be performed on each critical task or task selected for training.

The task analysis process will be based on the characteristics of the tasks of the jobs being analyzed. Performance measures necessary for successful evaluation of product or process, the standards of performance, and the conditions under which the task is performed will be identified and documented. Because of the extensive nature of the task analysis process it is recommended that the reader refer to TRADOC Regulation and Pamphlet 351-4 for further information. Efficiency of training demands that a learning analysis be performed, based on the performance measures and standards identified in the task analysis. The learning analysis will show the skills and knowledges that are course prerequisite and the sequence in which they must be mastered. Finally, in the conduct of the course, the critical tasks must be trained by having the soldier practice them until he/she can pass the criterion test. Under such a system the instructor's role shifts from information passing to performance monitoring, instructional management, and facilitation. Emphasis is required to ensure successful performance is achieved by the student; not a cursory overview of the intended test criterion. Course structure should never be permitted to reduce the identification of successful performance to an invalid paperwork exercise.

c. Criterion Referencing. Criterion referencing demands that certain absolute standards, based on job requirements, be established and that the soldier be evaluated against those standards. If all soldiers undergoing the training meet the standard, they pass. In the event of failure, remedial instruction, to include further practice, is conducted until the individual meets the standards, or until it becomes apparent he will not. Such a system holds time to course completion as variable and performance as a standard. Course length is established by means of an iterative process to determine the optimum time to reach competency in each unit of instruction.

d. Individualization. Individualized instruction is that training mode which permits individual characteristics of trainees to be a major determinant of the kind/amount of instructions given. It nearly always implies some form of self-pacing.

e. Tracking. Courses should be tracked based on major equipment configuration and/or duties in those cases where assignment is predictable. Where this is not feasible, tracking should be based on the prerequisite relationship of the tasks in the course so that when a soldier completes one module, he has several to choose from to avoid bottlenecks.

f. Self-paced Instruction. Where possible, materials should be designed for self-paced learning. The advantages of self-paced instruction should be clearly recognized and adapted to instructional materials where feasible; i.e.: progress at individual pace; open entry and credit by examination; systems design and individualized course management; use/reliance of instructional media; and, open exit graduation forecasting.

In many cases self-pacing will have the additional advantage of supporting training in the field by making exportable training materials available.

g. Training Media. Finally, training material should be designed to use the most appropriate medium or combination of media available, considering the characteristics of the tasks to be taught, the learners, and the training environment. Media will be used to support skill practice leading to task mastery, not as a substitute for the relevant training.

h. CMF (MOS) Progression. Within some CMFs MOS career progression is accomplished in a building block style such as in CMF 11. Others, e.g., CMF 63 and 31 encompass a diverse grouping of MOS , with several MOS merging into one MOS at the higher skill levels (3, 4, 5). It is the responsibility of the proponent school of an MOS to ensure that a viable training program is implemented to permit progression through all skill levels within that MOS. Tasks essential for supervising skills of subordinate personnel when a higher skill level is achieved must be identified/taught to permit a fully effective supervisor, one who is cognizant of what he/she is expected to do, to supervise.

3-5. Training Location (Site). Individual training systems developed by TRADOC schools must be designed to meet training needs whenever and wherever they arise. An individual training need arises when a soldier is assigned to a job for which he does not possess current mastery. The absence of current mastery may be due to the decay of skills previously mastered, or it may arise as a result of job requirements not previously trained that are unique to a given unit or command by virtue of its equipment, geographic location or mission. The absence of job mastery may also stem from a commander's decision to assign a soldier out of his branch, specialty or skill level, simply because an adequately trained and experienced soldier is not available. Whatever the reason, individual training requirements arise by the hundreds of thousands every day in both active and reserve forces. These training needs originate from factors and circumstances over which TRADOC has little or no control. It is crucial, therefore, that the full range of available sites/tasks be taken into account when engineering an individual training system for a given specialty/MOS. Failure to do so runs the serious risk of failing to meet Army training needs, resulting in degradation of readiness. General guidelines to assist in selecting training settings can be found in TRADOC Pam 350-30, Interservice Procedures for Instructional Systems Development. Additional guidelines reflecting the requirement for both site (location) and setting (form) selection are contained in TRADOC Pam 351-4. Principles and methods more directly relevant to the engineering of individual training systems for soldiers are outlined in Chapter 3, this regulation. The training locations

available to training developers are listed below. It will normally be necessary to provide individual training for a given job at more than one location.

a. Army Training Institutions (Institution Site)

(1) Army Service Schools

(2) Army Training Centers

(3) Noncommissioned Officer Academies

(4) Division/Post/Installation Schools

(5) USAR Training Divisions/Schools

(6) Army National Guard OCS Academies

(7) Senior ROTC

(8) US Military Academy

b. Units (Job Site)

(Note: Units, battalion size and smaller (Active Army/Reserve Component) normally operate in a garrison, local and major training center training environments).

c. Other Locations. Whenever soldiers are off the job (e.g., at home, etc.) self-study materials permit training to be feasible at the soldier's discretion.

3-6. Training Form (Setting). There are three forms of job training materials available to meet individual training needs: institutional, supervised on-the-job (SOJT), and independent self-study. The training needs associated with some jobs/duties vary so widely, in terms of when and where needs arise as to require the development of job training materials in all three forms. Due to increasing emphasis for SOJT, job training materials must have exportable training packages available to be conducted in the unit environment. The rationale for selecting the form(s) of training which will best satisfy the training needs of a particular duty will be based upon objective job data. Selection of which form(s) of job training material is appropriate to a given duty position will depend in large part on how the job/duty data interacts with the following six factors: student, instructor, facilities, training support

materials, training site, and evaluation.

a. Institutional Training Materials.

(1) Student. The full-time job/duty of the individual undergoing training is that of student.

(2) Instructor. The full-time job/duty of the individual administering the training is that of training administrator/course manager/facilitator.

(3) Facilities. The facilities used to conduct this training are normally designed or modified to serve this specific purpose and used primarily for this purpose.

(4) Training Support Materials. The availability, variety and sophistication of support material is normally greater in the institutional environment and will consist of the following categories:

(a) Training Equipment - actual equipment dedicated to training.

(b) Training Devices-(Simulative) synthetic, hybrid, part-task trainers, and models, mock-ups, hardware developed specifically for training.

(c) Training Delivery Systems - computer and audiovisual recorders/cameras, playback/projectors.

(d) Audiovisual Courseware - film, TV tapes, computer programs, slides, transparencies, etc.

(e) Training Literature - printed material; e.g., FM, TM, TC, GTA, etc.

(f) Training Ammunition.

(5) Training Site - This form of training is conducted in Army training institutions: service schools, training centers, division/post/installation/unit schools, NCO academies, USAR schools, USAR Training Divisions, Army National Guard OCS Academies, etc. (See para 3-5a)

(6) Evaluation. Lesson tests or exercises may be self-administered and scored; they may be administered and scored by the instructor (course manager or administrator) or a combination of these means. Proficiency tests/criterion tests determine the student's ability to perform the task(s) to the prescribed standards and are administered and scored by the instructor.

b. Supervised On-the-Job Training Materials.

(1) Student. The student performs his TOE/TDA job while undergoing training; training and job performance are integrated. The student may be performing one job while undergoing training for another related job.

(2) Instructor. Normally the first line supervisor conducts/administers the training. Administration of training is integrated with the other duties of the supervisor. Instruction will follow a prescribed procedure to ensure all required training to achieve mastery is accomplished and to assist the instructor who may be a novice to this type instruction. Failure to achieve this end can result in an ineffective SOJT program. Supervised on-the-job training materials are implemented through the Army Correspondence Course Program (ACCP) using methodology outlined in TRADOC Circular 351-2. This approach provides structured training, good course developer and evaluator feedback and relieves the service school of this burden of mass-producing and distributing training material.

(3) Facilities. Specialized training facilities are normally not available (other than unit learning center); most training takes place at the job site (unit maintenance facility, garrison/local/major training area, supply room, office, etc).

(4) Training Support Materials. The availability, variety and sophistication of support material is limited to that issued directly to the units or available at the local Training and Audiovisual Support Center (TASC). These include all literature, media, hardware devices, TOE hardware, etc. SOJT course should address all devices available to assist the novice instructor in ensuring the program is accomplished in an efficient manner.

(5) Training Site. The unit, and training areas/facilities available at the time of training, constitute the site for this form of training.

(6) Evaluation. Evaluation in this form of training course is conducted in the same way as institutional training, with the supervisor performing in the role of instructor.

c. Self-Study Training Materials.

(1) Student. The student performs his TOE/TDA job while undergoing training; training and job performance may or may not be integrated. The student may be performing one TOE/TDA job while training for another job which need not be related. This training will rely heavily on the use of school prepared ready to use materials normally packaged in the TEC or ACCP format.

(2) Instructor. The materials are designed to be instructor independent. Advice is provided the student through on-site supervisors and through correspondence with service school instructors.

(3) Facilities. This form of training is designed so that no special facilities are required.

(4) Training Devices. Material for self-study training courses is normally limited to printed or graphic material which can be mailed directly to the student. In addition, materials such as TEC which are already available in the field may be used.

(5) Training Site. This training may take place on the job site, in a unit learning center, in the barracks, in the student's home, etc.

(6) Evaluation. Testing under this form of training should be engineered to enable as much reliance on student self-evaluation as possible. Proficiency/criterion tests may be self-administered and centrally scored, or they may be administered by supervisors, NCOA cadre, Education Center staff members or by Test Control Officers and scored locally or centrally by the ATSC.

3-7. Course Management Plan. Each criterion-referenced job training course will require a course management plan. The management plan for a given course must be specifically tailored to the form of training (institutional, supervised-on-the-job, independent self-study), the training location, and the instructional materials and delivery systems used. The essential characteristics of a course management plan are prescribed below.

a. Instructor Guidance. A course management plan provides explicit, detailed, step-by-step "how to" instructions that tell the instructor (institutional training), supervisor (supervised-on-the-job training), or student (independent self-study) how to administer the training and evaluate the results of training. As a minimum, these instructions should address the following aspects of course administration:

(1) Listing of job tasks cross referenced to the principle training product and the material/equipment required to train the task.

(2) Sequence for administering course modules (lessons/tasks) in those instances where a specific sequence facilitates learning (training map).

(3) Identification of resources required but not provided as part of the course materials.

(4) Instructions for administering diagnostic tests (permits the student to challenge the objectives and related criteria associated with each course module), post-training criterion tests, and recording student progress.

(5) Instructions for completing and processing the certificate of proficiency associated with the course.

(6) The instructor's relationship to other members of the training system.

b. Student Guidance. Instructions are required for the student specifying the job or jobs being trained, his responsibilities and those of his supervisor and commander (when appropriate) for accomplishment of the specified training, and information relative to accessing associated training materials related to the course but not included as part of the training course materials.

3-8. Course Standardization Document. FORSCOM/TRADOC Reg 135-3 requires the use of a Course Standardization Document as a guide for conducting training at a location away from the TRADOC proponent school. As applied to Army Institutional Training, the Course Standardization Document is represented by the Course Management Plan (see para 3-7); as applied to Army Extension Training, the Course Standardization Document is represented by the Training Management Instruction Packet (TMIP) (See para 4-3).

3-9. Accountability. Every member of the Army has a responsibility related to individual training. Each member is personally responsible for attaining and maintaining proficiency in the critical tasks that define his job. Each supervisor and commander is responsible to provide soldiers access to training materials and to program sufficient time, facilities, and such other resources as may be required to enable effective, efficient individual training. DA Training Circular 21-5-7, Training Management in Battalions, provides guidance to commanders and supervisors in discharging their individual training responsibilities. The Commanders of the TRADOC Service Schools are responsible for defining critical job tasks, conditions and performance standards, and for developing appropriate training necessary

for MOS qualification. Subjective and objective evaluation systems exist to establish accountability for the results of individual training. The Skill Qualification Test (SQT) holds each soldier accountable for the results of individual training. Similarly, the ARTEP holds commanders and supervisors responsible for collective training proficiency which can only be achieved through effective individual and collective training. The Army Training and Evaluation Program (ARTEP) brings commanders and supervisors to account for both individual and collective training results. The aggregate of SQT and ARTEP feedback across the Army, when viewed in context with other relevant factors, bring each TRADOC school's commandant to account for the efficiency and effectiveness of the training systems his school creates for the specialties for which he is proponent.

3-10. Evaluation. Evaluation measures the potential of training to develop, in the soldier, those knowledges and skills required to perform identified job/duty tasks to the standards and under the conditions required for the employment, operation and maintenance of a system or his job. It occurs as job training materials are developed and validated, and as training is conducted. Since the focus of individual training is on the needs of the forces in the field (trained soldiers), this must also be the focus of the evaluation phase of individual training. Because the trained soldier is remote from the service school geographically and organizationally, evaluation programs must be carefully planned in order to gather required data efficiently. An evaluation program must focus carefully on areas with high potential for improving training effectiveness (e.g., SQT results). Obviously, all aspects of each job training course cannot receive constant attention. There are three basic elements needed to structure the TRADOC evaluation program.

a. Capturing of data indicators. Many of the data sources used to provide information for the task inventory in the analysis phase will also be useful in evaluation, particularly if trends are monitored after systems developed courses are introduced. School evaluation personnel must determine what sources provide relevant data on how well soldiers perform their assigned tasks and must monitor those sources. Use of item analysis reports from the TRADOC Educational Data System (TREDS) provides evaluation personnel with the test results of all soldiers who use specific training products. Tests can be structured so that they are administered and scored by the soldier's supervisor and may be designed to allow the supervisor to provide additional information for evaluators which is beyond the immediate scope of the test. TRADOC Circular 351-2 gives specific details on the use of TREDS in extension training.

b. Review of training developments products. The individual training system cannot function effectively if there are inconsistencies among training developments products. If tasks, as taught in job training courses differ from tasks present in the Soldier's Manual, or the way they are evaluated in the SQT, there can be no training system. If individual tasks are not taught to collectively sum up the requirements of a unit ARTEP, then those tasks not included must be ascertained and trained. Quality of training developments products, as well as their consistency with each other, will be the focus of evaluation efforts of the TRADOC Headquarters.

c. Inspection of the training process. Even when job training courses have been well developed, if they are not well managed the expected training benefits will not occur. For example, if course materials have been individualized but course managers do not allow the students to progress through appropriate modules at their own pace, inefficiency occurs. As a result, soldier discontent could lower the effectiveness of the instruction. This example serves to illustrate that evaluation programs must examine course management techniques, both in institutional and extension training. In addition, a personnel system interface is necessary to assist the open-ended training procedure from becoming ineffective.

3-11. Resources. The Army is faced with increasing budget constraints designed to reduce the size of the training base. As a result, it is imperative that alternative methods of training be expanded which provide for maintaining individual skills in units. This fact is prompting increasing reliance on supervised OJT and self-study approaches to the problem. It is recognized, however, that there must be a direct relationship between the various instructional modes (i.e., institutional materials should be developed which provide the ability to export modules and materials prepared for self-pacing; similarly individually paced materials designed for use in the field must be exploited in the institutional environment). Training may be developed which integrates institutional and non-institutional training. In some cases, completion of extension training materials can be made prerequisite to institutional training or vice versa. This is done by incorporating non-institutional training in the Army Correspondence Course Program (ACCP). Completion of the correspondence course completion certificate which becomes one of the items of which prospective student records are screened. In cases where non-institutional training follows institutional training, the student is enrolled in the correspondence course prior to departing the institution. The Army Institute for Professional Development will forward a copy of the completion certificate to the school when the student completes the correspondence portion of the training. Since resource constraints preclude simultaneous development of

all materials, an overall multi-year plan is essential. This plan will provide the basis for budget development and defense. It will provide the school priorities and lay out the resource requirements necessary to support it. The projected program which will provide the interface point for the personnel resource and training requirements for officer and MOS training is the Training Requirements and Analysis System (TRAS). Detailed guidance on TRAS is contained in TRADOC Circular 351-3, Individual Training Program.

3-12. Mobilization. Mobilization requirements can be accommodated by the ITP. Being aware of what is required to train, time required to train can be compressed through longer work weeks. Planning modifications to individual training systems can be expected during periods of mobilization. It is reasonable to assume that more training will be accomplished in schools and training centers covering tasks currently programmed for non-resident training.

CHAPTER 4

ARMY EXTENSION TRAINING

4-1. Purpose. The Army Extension Training System is the means through which the proponent service schools provide support to soldiers serving in their MOS in both the Active Army and Reserve components. It is designed to:

a. Provide a link between Army service schools and soldiers in the field.

b. Make a cross utilization of products produced in the institution, self-study and extension training formats.

c. Provide field commanders the capability to fulfill individual MOS qualification responsibilities resulting from reductions in the training base.

d. Provide the capability for cross-training and skill-maintenance of soldiers serving in units.

e. Provide access to all types of training materials to units and soldiers in units wherever they are located.

4-2. Concept.

a. TRADOC Goal. It is the TRADOC goal to provide the maximum amount of training support to field units in support of individual training responsibilities.

b. The Army Extension Training System is the logical extension of the systems approach to training designed to accomplish the goal. A thorough job analysis isolates the tasks required for a soldier to successfully perform his duties and survive on the battlefield. The tasks are then provided to the soldier and the NCO responsible for his training in the Soldier's Manual (SM) and Commander's Manual (CM). Soldier proficiency is evaluated by Skill Qualification Tests (SQT) constructed from these same tasks. The Training Extension System provides training materials through a range of different exportable programs to support training to perform these tasks.

c. In recent years service schools have provided extensive coverage of individual tasks with training products from the Training Extension Course, Army Correspondence Course Program (ACCP), television, and Army

Training Literature Program. To date, however, little effort has been devoted to providing commanders and NCO trainers with a comprehensive integrated package structured around a soldier's job. The JTP development process is designed to provide coordination to the elements of the Extension Training System to meet this need.

d. In the future, JTPs will be the cornerstone of the Army Extension Training System. Through the development of JTPs for MOS duty positions, the result of the analysis, design, and development effort in the TRADOC schools will be focused on the implementation phase, with the ultimate goal of improved individual proficiency and unit readiness in the Army.

e. Training products developed under the JTP approach provide trainers throughout the Army the guidance necessary to conduct proficiency training leading to initial duty position qualification and reinforcing or refresher training for previously qualified soldiers. This approach enables the trainer and soldier to prepare for individual training evaluation under the Skill Qualification Test (SQT) Program and to organize and carry out duty position progression training of OJT programs.

f. Products developed using the JTP approach will assist NCO supervisors to fulfull their responsibility to train their soldiers in individual skills while allowing officers to concentrate on training for collective ARTEP missions. The JTP is the vehicle which will bring the various elements of the training system together in a useful and integrated system for individual training.

4-3. Job Training Package Components.

a. Job Training Package is the term which describes the concept of integrating the various training products necessary to train to competency in a particular duty position. The package can be aimed at a specific duty position, or can be focused on clusters of common tasks (e.g., land navigation or first aid or weapons or vehicle systems). The complete MOS is covered by grouping the packages. A JTP is complete only when product coverage exists for each task and a TMIP has been fielded. In developing JTPs, the training developer provides the NCO trainer in the field a Training Management Instruction Packet (TMIP) consisting of:

(1) A list of tasks for each duty position cross referenced to the principal training product as well as the materials and equipment required to train the task.

(2) A training map designed to sequence training in the most efficient manner.

(3) Trainer guidance aimed at the NCO trainer or supervisor.

(4) Soldier guidance.

A JTP is complete only when product coverage exists for each task and a TMIP has been fielded.

(5) Evaluation tools (diagnostics).

(6) MOS certification information.

The composite of these components and the individual task training materials make up the JTP.

b. The development of these components is an integral part of the current system approach to individual training development. Job Training Package requirements:

(1) Are identified during the development of the Individual Training Plan (ITP) (TRADOC Cir 351-3).

(2) Make maximum use of products that have already been fielded - TEC, ACCP, etc.

(3) Will be integrated into revisions of existing publications - (SM, CM in the future).

(4) Permit training developers the flexibility to recommend methods of product use which match the characteristics of the various training environments.

c. The format of the JTP will be tailored to fit the variety of circumstances applicable to each specific MOS. This format will vary with the status of implementation of the job under EPMS, the status of training support materials available and the urgency of requirements from the field. In MOS which have fielded SM/CM and extensive training products, the components of the TMIP may be published as a separate pamphlet or subcourse. Similarly, it may be necessary to publish the TMIP as a separate pamphlet/subcourse in order to meet urgent field requirements. Ultimately, it is planned that the TMIP components will be embedded in the Soldier's Manual and Commander's Manual.

d. Specific operating instructions, procedures and responsibility are detailed in TRADOC Cir 351-7 .

CHAPTER 5

COMMON JOB AND TASK MANAGEMENT

5-1. Purpose.

a. Since many job tasks will occur in more than one job within or among specialties/MOS, a system is required which will both ensure high quality training materials and preclude duplication in training development efforts. By assigning proponency for weapons and other systems, as well as for functional subject areas, the common job and task management system will serve these purposes.

b. The Common Job and Task Management System is described in TRADOC Circular 351-1, Common Job and Task Management. It is a manual system designed to meet the immediate requirements of the TRADOC schools with a minimum of expense. As such, it is an interim system which will be replaced by an automated system (TDIS) which is currently under development and discussed in Appendix A.

CHAPTER 6

TRAINING FOR DEVELOPMENTAL SYSTEMS

6-1. Purpose. The goal in developing a system is to field an integrated package of hardware, logistics, documentation, and training materials. The final product will enable the typical user to employ, operate and maintain the equipment in such a manner as to achieve the desired operational capability in the unit environment. It is essential that individual and collective training programs be developed concurrently with the hardware in order to achieve this integration. For each phase of the Life Cycle System Management Model (LCSMM), specific training development activities are required to ensure concurrent development.

6-2. Training Concept. A training concept and implementation strategy will be prepared for all developmental systems concurrent with the preparation of the operational concept and the materiel proposal. The training concept and implementation strategy will provide the basis for an Outline Individual and Collective Training Plan (OICTP) which will be developed in accordance with AR 350-XXX and TRADOC Cir 351-8. The proponent TRADOC school is responsible for development of the training concept except for systems assigned a TRADOC System Manager. The training concept requires close and continuous coordination between the Directorates of Combat and Training Developments within the proponent schools to develop the training concept and the OICTP. Guidance for this effort is found in the draft DARCOM/TRADOC Technical Documentation and Training Acquisition Handbook. The Handbook is scheduled to be published in Fall 1978. As a minimum, the training concept will address the following factors:

a. Training Required. Study of the tentative operational concept and materiel proposal will normally provide sufficient information to permit reasonable assumptions relative to training requirements. Normally, it will be necessary to provide training in employment, operation and maintenance of the proposed system. Tentative assumptions as to the numbers, grades and/or skill levels, and organizational and geographic location of soldiers requiring training should be included in the overall planning of the training concept and implementation strategy. It will also be useful to predict general duties and responsibilities of soldiers relative to the employment, operation and maintenance of the proposed system.

b. Target Population. Given the general information about training requirements, it is necessary to determine what type of soldiers will be available to employ, operate and maintain the proposed system. This is a crucial step in developing the training concept. The proposed system must be engineered for the type soldiers the Army can afford to make available to man it. The training concept must describe these soldiers in terms meaningful to both the engineers who will design the materiel and the training developers who will develop the training sub-system. This description

is also a key input to the personnel subsystem for the proposed system. Such factors as physical characteristics, aptitude, reading ability, etc., must be used to describe soldiers available to man the system. This becomes the description of the target training population in the training concept. This information can be obtained from ADMINCEN on request.

c. Training Environment (Site). Consideration must be given to the location at which initial and sustaining training will be provided when the system is fielded. In this regard, unit training needs must be anticipated and planned for. It is imperative that the training concept provide for initial and sustaining training at locations remote from service schools and training centers. Such training must be tailored for conduct in the garrison, local and major training area environments.

d. Training Devices. Requirements for training devices must be anticipated in the training concept; however, firm requirements will be developed only after an analysis of critical job tasks and skills requiring training. They may be required for initial skill mastery, sustainment of skills, and for evaluation of soldier competence. Simulative devices will normally be found cost effective when hands-on skill practice is essential and when such training and evaluation on actual equipment uses significant resources, causes damage to the environment, or would risk damage to equipment or injury to personnel. Training device requirements must be developed concurrent with other components of the total system.

e. Technical Documentation. The primary purpose of technical documentation at the operator/crew, organizational, and direct and general support levels is to delineate tasks that must be performed in operating and maintaining the system and to provide clear instructions describing how best to perform/train these tasks. The technical documentation is therefore the principal instructional resource for use in training operator/crew and maintenance personnel. The development of technical documentation and training must be integrated throughout the development process if they are to be optimized as part of the training subsystem. The training concept for a developmental system must reflect the requirement for skill performance aid (SPA).

6-3. Letter of Agreement (LOA) and Required Operational Capability (ROC). These are key documents that guide the developmental process for new systems. As such, they must reflect user requirements to guide the development of training subsystem. Key elements of the training concept must be written into the LOA to guide initial development. These same elements, modified as indicated by feedback from initial development and Developmental and

Operational Test (DT/OT) I must be written into the ROC to guide advanced development. As a minimum, the following factors bearing on the individual training requirements of the training subsystem will be addressed in the LOA and ROC.

a. Training device requirements. Device requirement may be implicit in the system requirement documentation.

b. Skill Performance Aid (SPA) Requirements.

c. Additional training requirements and materials such as classroom trainers, special training devices and training courses deemed appropriate and not considered to be a part of SPA.

d. Estimated costs of the above.

6-4. Development of Individual Training. The individual training for operator and maintenance tasks, required by New Equipment Training Teams to introduce a new system into units and TRADOC schools, will be developed by the contractor as part of the Extension Training Materials (ETM) component of the SPA. Responsibility for individual tactical training, common tasks and generic skills (e.g., use of test equipment) will be developed by the proponent school. All individual training, whether developed by the proponent school or contractor will be criterion-referenced, performance-oriented, individualized, and based upon valid job requirements. Specific training development activities to be accomplished at the associated LCSMM event are:

a. Concept Phase.

(1) Pre-Letter of Agreement (LOA).

(a) Prepare an Outline Individual/Collective Training Plan. The preliminary OICTP is a management and administration plan describing how and where training is to be done, and identifying the anticipated resources required to support the training effort. See TRADOC Cir 351-8 for actions required to complete the OICTP and ICTP.

(b) Perform a tentative Front-End Analysis to identify duties and responsibilities of individuals. Insofar as possible, it is desirable to identify specific tasks associated with the hardware.

(c) Identify potential requirements for training devices and simulators.

(d) Prepare training cost estimates to input into the baseline cost estimate.

(2) LOA - Prepare the training concept (para 6-2 above) which is a synthesis of the pre-LOA activities.

(3) Concept Formulation Package (CFP).

(a) Provide training representation to any study group or task force established to investigate issues raised in the LOA.

(b) Perform Cost and Training Effectiveness Analyses (CTEA) or a Training Analysis for a Cost (TAC), as required on training alternatives.

(4) Outline Acquisition Plan (OAP).

(a) Update the OICTP, training developments requirements to input into the RFP.

(b) Prepare a training test plan to serve as input to the coordinated test plan.

(c) Prepare Individual Training Program (ITP) for new MOS specialty or input to existing appropriate ITPs.

(5) Request for proposal (RFP).

(a) Prepare specifications for training development.

(b) Prepare specifications for training management and administration.

(c) Prepare specifications for validation of training materials.

(d) Prepare criteria for proposal evaluation.

b. Validation Phase: Evaluate Training Proposals.

(1) DT/OT I

(a) Prepare input to training test plan.

(b) Specify "high-risk" tasks.

(c) Evaluate training proposal.

(d) Monitor contract activities.

(e) Develop draft FMs, tactical training, ARTEPs (operational concept/mission profile), and Soldier's Manuals for those "high-risk" tasks associated with tactical employment.

(f) Evaluate DT/OT I test results in accordance with para 6-5 below.

(2) Required Operational Capability (ROC).

(a) Submit ICTP and ITP.

(b) Specify additional development and testing if validity is not demonstrated.

(c) Update training system description.

(d) Prepare revised training cost estimates.

(3) Acquisition Plan

(a) Prepare development plan for training.

(b) Prepare test plan for training.

(4) Request for Proposal (RFP).

(a) Prepare proposal evaluation criteria.

(b) Evaluate training proposals.

(c) Recommend contractors.

(d) Monitor/coordinate contractor development activities.

(e) Develop draft FMs, tactical training, ARTEPs (operational concept/ mission profile) and Soldier's Manuals.

c. Full-Scale Development (DT/OT II).

(1) Prepare training test plan to serve as input to the coordinated test plan.

(2) Evaluate DT/OT II training test results in accordance with para 6-5.

d. Initial Operational Capability (IOC).

(1) Distribute training materials.

(2) Conduct new equipment training.

(3) Monitor and assist unit implementation.

6-5. Evaluation of Individual Training for Developmental Systems.

a. Demonstration and Validation Phase. The Letter of Agreement (LOA) guiding the demonstration and validation phase of the Life Cycle System Management Model (LCSMM) process will require the DARCOM materiel developer to develop a synoptic outline of each TM to be produced and preliminary draft documentation and story board training materials for high risk tasks. High risk tasks are those critical operation or maintenance procedures which have a high potential for performance shortfall and a corresponding adverse impact on overall system performance if soldiers are not trained to perform them to standard. These tasks are typically difficult to train because they are exceptionally complex and/or require a high degree of skill, have either a high frequency of occurrence on the job, a low task delay tolerance, or high consequences of inadequate performances, or any combination of the above. A performance equipment and functional analysis will be conducted and task analysis worksheet prepared as early in the demonstration phase as feasible using engineering data, mock-ups, etc., to enable the selection of difficult to train tasks. These tasks, selected jointly by the DARCOM materiel developer and the TRADOC school proponent for the system, will be incorporated into a signed agreement. Deliverable products for DT/OT I will be determined between DARCOM and TRADOC on a case-by-case basis. The draft documentation and training produced as a result of the determination will be used to train operator and maintenance personnel, representative of the intended user population, for DT/OT I. The capability of the soldier so trained to perform the high risk tasks to the required standards in the field (simulated combat) phase of OT I will be made a critical task issue. The identification and agreement on high risk tasks between the materiel developer and the user representative (proponent TRADOC school) will be a formal, identifiable milestone in the validation phase of development, and will be incorporated in the Acquisition Plan.

b. Full-Scale Engineering Development Phase. The Required Operational Capability (ROC) or Letter Requirement (LR) document guiding the full-scale engineering phase of development will require the materiel developer to procure a complete draft SPA package for the system, including Logistic Support Analysis (LSA). In this phase, during the performance of LSA, the contractor will produce and DARCOM/TRADOC will arrive at a signed agreement on a complete list of operator/crew and maintainer tasks up through the general support maintenance level. It is from this task list that SPA technical documentation and training components are derived. The specific MOS, skill levels, jobs and tasks to be trained using SPA material will be identified by the user representative (appropriate TRADOC school) in the Individual Collective Training Plan (ICTP) initially developed in the concept formulation phase, provided in the Validation Phase, and refined/updated after DT/OT I. The ICTP will also describe the requirements for

developer training for service school staff and faculty. The draft SPA package, prototype system training devices and tactical training will be delivered to each test site in accordance with the policies in AR 700-127 and AR 71-2, and tested as part of the overall system during DT/OT II. All elements of the training support package for individual and collective training will be available in draft, storyboard, prototype, etc., form for OT II. The ability of the OT personnel trained with the SPA materials to perform the required tasks to the specified level of proficiency will be a critical issue for test.

c. Systems Currently in the Development Process. Whereas SPA implementation as prescribed herein is mandatory for all new start systems, ongoing developments represent special cases. The full or partial application of SPA, the consideration of the ongoing development for treatment as a fielded system or the waiver of SPA will be determined between the developer and user representative, on a case-by-case basis. It shall be recognized in this process that the ability to implement SPA for ongoing development is dependent on such factors as (1) funding availability, (2) possibility of obtaining funding without adversely affecting IOC commitments, (3) the dollars already invested in producing TMs and training materials, (4) contractual commitments, (5) the opportunity costs of failing to produce SPA. Systems developed beyond DT/OT II as of 31 January 1978 will be treated as fielded systems for consideration by the SPA General Officer Steering Committee. This does not preclude obtaining SPA products for those systems for which SPA funds have been identified prior to 31 January 1978 date.

d. Evaluation of Training Effectiveness. This evaluation measures the ability of the training to develop in the soldier those knowledges and skills required to perform identified job tasks to the standards and under the conditions assumed to be required for employment, operation and maintenance of the system. It is not a test of the correctness of the tasks or their allocation to specific jobs, nor is it a test of the appropriateness of the assumed conditions or standards. These same soldiers will employ, operate and maintain the system in the operational phase of the test. Feedback from this phase of evaluation is used primarily to refine instructional methods and materials.

e. Evaluation of Training Content. The second phase of training evaluation looks at the correctness of tasks and associated conditions and standards and their allocation to jobs. The central question is: "Can soldiers trained in Phase I employ, operate and maintain the system sufficiently well that the overall desired operational capability is achieved?" This question is best answered by collecting and analyzing relevant data from the simulated tactical shakedown of the system. Feedback from this phase of evaluation is used primarily to correct or refine the substance of the training subsystem, although hardware, personnel or logistics subsystems may also be modified.

CHAPTER 7

RESOURCE MANAGEMENT

(To Be Published)

APPENDIX A

AUTOMATED SUPPORT SYSTEMS

A-1. Training Development Information System (TDIS). Because of the number of Army jobs that exist, the volume of critical tasks which will have training requirements, and the subtle differences in task, conditions and standards, identification and management of task descriptions will be a difficult problem. It will not be possible to accomplish this management function in an efficient manner by manual means. The Training Development Information System is a management program presently being researched that will consist of the update, modification and access of the collection of all task descriptions for all MOS, warrant officer and officer specialties as stored in a task description data base. TDIS will provide efficient task management and a centralized single source of task descriptions for training products and program support. TDIS will be used by all TRADOC service schools as well as AOSP (MILPERCEN) and the ATSC components. It will be administered by ATSC, Fort Eustis, VA.

When fielded, TDIS will be useful to:

(a) Define jobs in terms of their included critical tasks.

(b) Provide the basis for management of training proponency.

(c) Identify tasks that must be learned when changing jobs within and across MOS.

(d) Highlight areas where gaps in training support exist.

(e) Catalog training materials available for jobs and tasks.

(f) Monitor ammunition and devices requirements.

(g) Serve as the basis for developing and modifying job descriptions.

(h) Assist in identification and resolution of problems in job and task performance in the field.

(i) Facilitate training analysis for new systems.

(j) Improve quality of task descriptions and analyses.

(k) Encourage use of common descriptive terms across all MOS.

(l) Verify training development workload.

(m) Maintain file of combat critical systems.

(n) List sites where institutional training is conducted.

A-2. Automated Instructional Management System (AIMS). A requirement exists to obtain automated support which will enable schools to optimize their use of instructors and resources, move students upon graduation, aid in the instructional system, and provide an audit trail in the administration of institutional training. To support these requirements, the Automated Instructional Management System (AIMS) is being developed. AIMS will be a stand-alone computer system located at each service school where its use is found to be cost effective. Currently nearing the prototype state in the Army (although already implemented by the U.S. Navy), AIMS will:

a. Maintain student records.

b. Schedule instructors and facilities.

c. Route students to appropriate modules in self-paced courses.

d. Administer tests.

e. Predict graduation dates.

A-3. TRADOC Educational Data System-Non-resident Instruction. (TREDS-NRI). TREDS-NRI is the automated management and administration system for the Army Correspondence Course Program (ACCP). Capabilities of TREDS-NRI include:

a. Maintain student records.

b. Administer and grade tests.

c. Maintain statistics on courses and subcourses.

d. Maintain subcourse performance data (item analysis) for course developer feedback.

e. Maintain production and inventory statistics.

A-4. Advanced TRADOC Educational Data System (TREDS Advanced). This is an advanced version of TREDS-NRI and is currently under development. In addition to the capabilities inherent in TREDS-NRI, TREDS Advanced will:

a. Provide more flexible testing and grading (similar to SQT).

b. Provide for controlled testing with registered test controllers.

c. Provide for direct comparison of student SQT results with general population SQT results.

d. Provide for sample testing of student population for reading level, learning disabilities, etc.

e. Provide automated cataloging of training products.

f. Provide performance feedback to students, commanders, training managers and training developers.

The proponent of this regulation is the Office of the Deputy Chief of Staff for Training. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications) through channels to Cdr, TRADOC, ATTN: ATTNG-TDI-ORA, Fort Monroe, Virginia 23651

FOR THE COMMANDER:

OFFICIAL:

ROBERT C. HIXON
Major General, GS
Chief of Staff

R. N. WAGONER
Colonel, AGC
Adjutant General

DISTRIBUTION:
H1, H3, R1,
RC, S1, S2, S3,
T

CF:
H2
HQDA (DAMO-ODU)
Cdr, USA Research Institute

END

DATE
FILMED

6-81

DTIC