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REGULATION
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Training
INDIVIDUAL INSTRUCTIONAL DESIGN

Supplementation of this regulation and establishment of local forms is prohibited without prior approval from the U. S. Army Soldier Support Institute (ATSG-TSI).

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*This regulation supersedes USASSC Regulation 350-20, 22 Feb 90.

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CHAPTER 1

GENERAL

1-1. PURPOSE. To prescribe policies and procedures for the design of training; the preparation, coordination, and approval of design products; and the maintenance of an instructional design audit trail.

1-2. SCOPE. This regulation applies to all personnel, schools, and organizations designing individual training in or for the U.S. Army Soldier Support Institute (USASSI) and the NCO Academy (NCOA). Unless specified otherwise, the term "school" as used in this regulation will apply to the NCOA as well as the schools of USASSI. The term "school commandant" will apply to the NCOA Commandant as well as the USASSI school commandants.

1-3. REFERENCES. Subsequent chapters of this regulation list references for each step in the design process. In addition, Appendix A provides a consolidated list of references.

1-4. DEFINITION.

Designer: An individual, civilian or military, who engages in instructional or training design in or for one of the schools.

1-5. RESPONSIBILITIES.

a. The School Commandant establishes and/or approves overall priorities for instructional design. Appendix B summarizes the instructional design process and its related products.

b. The Director, Training Support, manages the design process. Specifically, he/she:

(1) Establishes policies and procedures related to instructional/training design.

(2) Serves as principal adviser to the School Commandant/SSI Commander on instructional design requirements, procedures, and techniques.

(3) Advises the school commandants on the requirements, procedures, principles, and techniques of instructional design.

(4) Designs and conducts training for designers, as needed.

(5) Reviews and approves design products IAW Appendix C.

(6) Approves all major deviations from procedures and product standards outlined in this regulation.

(7) Ensures that directorate personnel process in a timely fashion those products submitted to them for review.

c. Commandants of USASSI Schools:

(1) Ensure that school personnel perform all necessary design steps IAW this regulation and applicable TRADOC publications.

(2) Ensure that school personnel prepare, coordinate, and submit for review and approval all design products IAW Appendix C.

(3) Approve design products IAW Appendix C.

(4) Ensure that school personnel meet all design milestones.

(5) Ensure that school personnel maintain an audit trail of design activities and products IAW this regulation and other appropriate TRADOC directives, and Army Regulation (AR) 25-400-2. Appendix B provides a comprehensive listing of design products which schools should file in their audit trails.

d. The Commandant, NCOA, ensures that NCOA personnel prepare tests from test items provided by the Sergeants Major Academy (SMA) for use in the common leader training portions of Basic and Advanced NCO Courses (BNCOA and ANCOA). Moreover, the NCOA Commandant is responsible for all BNCOA and ANCOA conducted at SSI even though USASSI schools are proponent for the technical portions of these courses.

1-6. POLICIES. HQ TRADOC has spelled out the basic policies for instructional design in several TRADOC publications, notably TRADOC Regulations 350-XX (Training Development Process, Management, and Product Development), 351-1, and TRADOC Pams 350-XX (Multimedia Courseware Development Guide) and 351-14. Within the USASSI, the following policies apply:

a. The proponent schools will perform instructional design.

b. The Directorate of Training Support (DOTS) will review the products of design for completeness, educational soundness, standardization, and compliance with the Department of the Army (DA), TRADOC, and USASSI requirements. DOTS will provide written critiques of all products reviewed. The critiques will guide the revision of products by the proponent schools.

c. Where schools have previously designed training in a systematic manner, they will conduct a periodic review of design to ensure the training is current and efficient. Needs analysis may dictate the redesign of some training.

d. When school personnel by-pass any step of the design process or fail to produce any design product, the proponent school commandant will ensure that they prepare a memorandum for record (MFR) and enter it into the audit trail to explain why they did not meet the requirement.

e. School personnel will date every design product or document. In addition, the individual who prepared the document will enter his/her name, rank, and telephone number on the document or product (preferably in the upper right corner).

f. BNCCOC, ANCCOC, OBC, OAC, WOBC and WOAC contain "common core" training which is standard throughout all TRADOC schools. The SMA provides test items to NCOA for use in common leader training (i.e., core) testing in BNCCOC and ANCCOC. The SMA is thereby responsible for approving the subject matter accuracy of these tests and for determining the type of testing conducted (knowledge vs performance). Cores for OBC, OAC, WOBC and WOAC include training and tests provided by various proponent schools throughout the Army via Training Support Packages (TSP). These proponent schools are thereby responsible for the accuracy of tests and kind of testing conducted in these common cores. The USASSI school commandants are responsible for modifying this training to meet the needs of PSS units and for changing the testing procedures accordingly.

1-7. OVERVIEW. Instructional design constitutes the second phase of a systematic approach to training. The boundary between analysis and design and that between design and development are not always clear. Appendix B summarizes the general steps in the design process, the principal products of those steps, and required submissions, if any.

1-8. PROCEDURES. Subsequent chapters of this regulation detail specific procedures for conducting the various steps of the design process.

CHAPTER 2

EXISTING MATERIALS REVIEW

2-1. REQUIREMENT. Existing materials include audio-visual, printed, or other materials that address tasks or subjects that the school will be training. The materials may or may not be instructional in nature. Existing materials review is actually a two-phased process. The first phase involves the identification and collection of existing materials and occurs at the outset of design. The second phase involves the evaluation of those materials to determine their applicability to the training under development. This phase occurs after schools have written terminal and enabling learning objectives.

2-2. REFERENCES.

- a. Approved critical task and training site list.
- b. AR 108-2.
- c. DA Pam 25-30.
- d. DA Pam 350-100.
- e. DA Pam 351-20.
- f. FM 12-6.
- g. FM 14-7.
- h. FM 25-100.
- i. FM 100-5.
- j. TRADOC Pam 71-9.
- k. TRADOC Pam 350-30 (Phase III, Develop, pp. 198-219).
- l. Current Programs of Instructions (POI).
- m. Textbooks, modules, lesson plans, handouts, and other materials used in current resident and nonresident courses.
- n. Catalog of Shared Tasks
- o. MOS Training Plan (MTP) for units within which MOS is located.
- p. Threat documents.
- q. Terminal and enabling learning objectives for the training under development (when written).

2-3. PROCEDURES.

a. When the DOTS director has approved critical task and site recommendations, the school commandant will appoint an individual to serve as the designer for the course or skill level training.

b. The designer will review reference 2-2a to identify the tasks for which training is needed.

c. The designer will then conduct research to identify programs and materials which may apply to these tasks/subjects. It is impossible to list all possible sources of materials. However, references 2-2b through m are some common sources. Most of the existing materials are those used in courses taught at the USASSI, or in courses taught in Reserve Component training facilities. The designer should not overlook USASSI non-resident training materials nor materials from other service schools. Still other possible sources include civilian institutions, other armed services, and other government agencies.

d. When the designer has completed the research, he/she should list and collect as many existing materials as possible. He/she will carefully evaluate these materials later in the design process.

e. When the designer has written the terminal and enabling learning objectives, he/she will evaluate the existing materials.

(1) The designer will review materials to determine if:

(a) They will satisfy the objectives without modification.

(b) It is more time and cost effective to modify them to satisfy objectives than to develop new materials.

(c) He/she can use them as the basis for the instruction with supplemental materials that the school would develop.

(d) They are usable as resource materials.

(e) They are not usable at all.

(2) The designer will observe the following guidelines during the review:

(a) Do not modify objectives to fit existing materials.

(b) Keep in mind any constraints identified earlier, especially if they dictate mode or medium.

(c) It is often cheaper to develop a new TV tape, slide show, film, etc., than to modify an old one.

(d) Be thorough the first time. A little extra time spent during the review may save a great deal of time and money later.

(e) Remember that, within a specialty, training at higher skill levels (grades) should build upon, rather than duplicate, training at lower skill levels (grades). If the soldier performs a task at multiple levels, some refresher training may be necessary. However, the training, practice, and test situations should be tailored to the particular target audience. This may require modification of existing materials or new development.

(f) Don't feel that everything done before is useless. Take the approach that you can use all existing materials unless your review proves otherwise.

(g) Keep track of the materials you review.

(h) The proponent schools for some of the existing materials may have already validated them. If so, you should carefully review the validation data.

(3) There is no cut-and-dried way to review materials. However, the checklist at Appendix D provides a handy tool to guide the review. As you review the materials, be sure to compare them with the learning objectives.

f. The designer will prepare:

(1) A list of materials for use without modification. The list should identify the material, the learning objective it supports, and the location of the material (if not filed with the objective).

(2) A list of materials that require modification. This list should identify the material, the learning objective it supports, the location of the material (if not filed with the objective), and a description of the needed changes.

(3) A list of training voids--i.e., learning objectives for which no usable materials exist. This list identifies learning objectives for which the school must develop brand new materials.

g. The designer will submit the lists (the results of his/her review) to the school commandant for approval.

2-4. DISPOSITION. The proponent school will file the review results (lists) and related materials.

CHAPTER 3

COURSE (SKILL LEVEL) TRAINING STRATEGY

3-1. REQUIREMENT. The course or skill level training strategy is a "game plan," consisting of the elements described in paragraph 3-3. Although the school develops it early in the design phase, it is a "working" document which the school must update throughout the entire design/development process. In other words, many parts of the strategy at first are guesses or estimates. As design and development proceed, the school must refine these parts of the strategy. Eventually, much of the strategy will evolve into the course management guide or training management plan. SSI Reg 350-21, Resident Course Development, provides detailed guidance for the development of user instructions/course management guides.

3-2. REFERENCES.

- a. Approved critical task and training site list.
- b. Program of Instruction (POI) for existing course (if any).
- c. Individual Training Plan (ITP) for the MOS/branch.
- d. Feedback/evaluation file.
- e. Needs analysis file.
- f. Branch Liaison Team (BLT) reports.
- g. Target population description for the skill (grade) level of the MOS/branch.
- h. Lessons learned from combat training centers (CTC), Army-wide exercises, and actual wartime operations.
- i. TRADOC Regulation 350-XX.
- j. TRADOC Regulation 351-10.
- k. TRADOC Pamphlet 350-XX.
- l. TRADOC Pamphlet 351-14.

3-3. PROCEDURES.

a. The designer will draft the training strategy, including the following elements:

- (1) A list of tasks for training in the new/revised course. He/she can derive this list from reference 3-2a.
- (2) A description of the existing course/training (if any). At a minimum, the description should cover course length, course frequency, student load, instructor and support requirements, instructional mode, and subject matter. If the course is task oriented, the description should include a list of tasks trained. Reference 3-2b should prove useful.
- (3) A description of problems with the existing training (or lack of training). These should be problems that the school expects to solve or alleviate via the new/revised training. References 3-2c through g may provide clues to problems that exist or to situations that have the potential of becoming problems. The school commandant, department director, and current course director may also be able to identify problems that the strategy should address.
- (4) A target population description. This description should already exist (reference 3-2h). The designer should review and update it before incorporating it into the training strategy. When writing for a target population, the developer must consider future MOS/SC changes, work center structure and missions, equipment enhancements, and current MTOE and TDA unit structure and missions. All of these provide insight into where the soldiers serve and the missions which they must perform. It is also important to keep abreast of future doctrinal and organizational changes so that your training materials are not made out of date by shifts in unit missions or organizational structure changes.
- (5) A description of materials for development. The review of existing materials (see Chapter 2 of this regulation) will provide some of the information needed for this part of the strategy. The designer will also need to consider preliminary judgments concerning instructional mode.
- (6) A description of the kinds of tests the school will develop/use. All tests will be criterion referenced and, where possible, will be performance tests.
- (7) A description of student flow. This is a general listing of the types of learning activities a student will experience during the course. As design and development proceed, the designer will write this section in greater detail.
- (8) A description of the need and provision for remediation and retesting in the course.

(9) A description of the need and provision for spaced practice/reinforcement training in the course.

(10) A list of facilities and equipment needed for the course. The designer can, for the most part, derive information for this part of the strategy from the ITP (reference 3-2c).

(11) A list of staffing requirements. Here, the designer must detail the numbers and types of instructors and support personnel needed. (Remember that the skills required for conducting small group instruction differ from those required for platform instruction. A small group leader needs different skills than a lecturer needs.) Again, the ITP is a useful reference.

(12) A recommended milestone chart. The strategy must establish dates for accomplishing key events in the design/development/implementation process. The ITP will provide some dates. However, the designer must review and, if necessary, revise these dates in light of current staffing and USAGSI priorities.

b. The designer will submit the draft training strategy to the school commandant for coordination, review, and approval IAW Appendix C. All reviewers will check to see that the strategy is consistent with CMT/officer training strategies and with sound educational principles.

c. As design and development proceed, the designer/developer will update/refine the strategy as needed. Don't forget: this is a working document. (A mandatory update of the strategy is required after the designer has specified learning activities. See Chapter 8 of this regulation.)

d. The designer will document all changes to the strategy to indicate what changed, when it changed, why it changed, and who authorized the change.

e. The school commandant will review and approve the revised/updated strategy.

3-4. DISPOSITION. The proponent school will file the training strategy.

CHAPTER 4

COURSE ADMINISTRATIVE DATA (CAD)

4-1. REQUIREMENT.

a. Course administrative data (CAD) comprise one of the required documents in the Training Requirements Analysis System (TRAS). TRADOC uses CAD documents to develop student input requirements for new or revised courses and to establish course files in the Army Training Requirements and Resource System (ATRRS). In addition, it uses CAD to provide the US Army Recruiting Command (USAREC) with descriptions and prerequisites for initial entry training (IET) courses and to update information in the US Army Formal Schools Catalog (reference 4-2b). TRADOC requires schools to submit CAD 36 months prior to the beginning of the fiscal year in which the new or revised course will begin. This is necessary so that TRADOC can include individual training requirements in the Army Program for Individual Training (ARPRINT). If a 36-month lead is not feasible, schools should submit the CAD as early as possible. NOTE: The CAD document becomes the preface page in the POT for the course. CAD documents will be generated using POIMM.

b. SSI Reg 350-19 (Chapter 5) requires the DOTS director to appoint a single point of contact (POC) for the management and coordination of all TRAS documents within the USASSI.

4-2. REFERENCES.

- a. AR 350-10.
- b. DA Pamphlet 351-4.
- c. TRADOC Regulation 351-1.
- d. Course training strategy.
- e. Individual Training Plan (ITP).
- f. Program of Instruction Management Module (POIMM) Users Manual.

4-3. PROCEDURES.

a. After the school commandant has approved the course training strategy and after the school has determined the approximate course length, overall course objectives, and entry levels, the designer will prepare the CAD document IAW references 4-2c and 4-2f. This is usually done in concert with the course director and the TRAS POC in DOTS.

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b. The designer will submit the CAD to the school commandant for review and approval. The school commandant will forward the CAD to DOTS on a disk.

c. The TRAS POC in DOTS will review and coordinate the CAD submission IAW reference 4-2c. In addition, the TRAS POC will revise the submission as necessary to effect compliance with the references and will coordinate any changes with the designer and school commandant.

d. The TRAS POC in DOTS will draft memorandums of transmittal for the CAD to the TRADOC Manpower Agency (TMA) and to HQ TRADOC using FOIMM.

e. The DOTS director will submit the CAD to the TMA and to HQ TRADOC IAW references 4-2c and 4-2f.

f. When HQ TRADOC returns the CAD, the TRAS POC in DOTS will coordinate with the school commandant and the school designer to make required changes, if any.

4-4. DISPOSITION.

a. The TRAS POC in DOTS will:

(1) Maintain the record file of CAD and approval documentation.

(2) Provide a copy of each CAD submission to Training Management, DOTS.

(3) Furnish copies of revised CAD to the school commandant.

b. The proponent school will file copies of the CAD and related documentation in the audit trail.

CHAPTER 5

TERMINAL LEARNING OBJECTIVES (TLO)

5-1. REQUIREMENT. TLO are the very foundation of our systematic approach to developing instruction. The first step in the design process is the identification of the end product--that is, what we expect the student to be able to do after exposure to our instruction. The TLO is the basis for all further design and development efforts--the construction of tests, the specification of learning activities, the drafting of the POI, the writing of lesson plans, etc.

5-2. REFERENCES.

- a. Course (skill/grade level) training strategy.
- b. Task summaries for the tasks to be trained.
- c. TRADOC Regulation 350-XX.
- d. TRADOC Pamphlet 350-30 (Phase II, pp. 1-34).
- e. TRADOC Pamphlet 350-XX.
- f. TRADOC Pamphlet 351-14.
- g. Mager, Robert F., Preparing Instructional Objectives.
- h. Dillman, Caroline Matheny, and Harold F. Rahmlow, Writing Instructional Objectives.
- i. Pipe, Peter, Objectives--Tool for Change.
- j. Mager, Robert F., Measuring Instructional Intent: Or Got A Match? (pp. 15-46).

5-3. PROCEDURES.

- a. The designer will review reference 5-2a to identify the tasks for which the school will develop training.
- b. The designer will then obtain copies of the Soldier's Manual (SM) or Officer Foundation Standards Manual (OFSM) task summaries for these tasks (reference 5-2b).
- c. If the designer is inexperienced, he/she should review one or more of the references listed in paragraphs 5-2c through j.
- d. Using the task information included in the task summary, the designer will write a TLO for each task to be trained, IAW the procedure at 2 Appendix E.

(1) The TLO will describe desired student performance (action) at the end of training on the task and will include action, conditions, and standards. In other words, the TLO will describe a test which the designer will later prepare to assess the student's ability to perform the task.

(2) Tasks which are unusually long and/or complex may require training via more than one lesson and testing via more than one test. Such a task would require the designer to write more than one TLO to support it.

(3) Remember that the performance, conditions, and standards described on the SM/OFSM pages are those used to evaluate a soldier in the actual job environment. The TLO must describe the performance (action), conditions, and standards used to evaluate a student in the school environment, i.e., a test. These two descriptions may or may not be the same, depending on the constraints of the learning environment.

(4) If the school cannot train a task to SM/OFSM standards (i.e., job performance standards), the designer should ensure that the Task and Subject Summary portion of the POI reflects this and includes a statement of rationale in the REMARKS column.

(5) In addition to critical tasks, the school must write TLO for all blocks of instruction that require the student to do something at the end of training (i.e., demonstrate mastery via a test or final practice exercise).

(6) The designer should prepare "scope" statements, instead of TLO, for blocks which do not require student performance. These are blocks during which the student simply receives information and which do not require the student to subsequently demonstrate mastery via test or final practice exercise. Such a scope statement is simply a listing of the subjects covered by the instruction.

NOTE: Do not confuse the above with "SCOPE" statements included in POI entries. POI entries should reflect student performance (i.e., the action portion of a TLO) whenever possible.

e. The designer will then ensure that each TLO is adequate by checking it against the criteria listed in Appendix F.

f. The designer will then submit the completed TLO for coordination, review, and approval IAW Appendix C.

g. As design and development proceed, the designer will revise the TLO as needed. Remember that TLO, once written, are not "cast in concrete," but should change if at a later date there is reason to change the desired outcome of the instruction. The designer should, of course, document every change in the audit trail.

5-4. DISPOSITION. The proponent school will keep files of approved TLO.

CHAPTER 6

LEARNING ANALYSIS

6-1. REQUIREMENT. The task analysis describes how a soldier on the job should perform a task. The terminal learning objective describes how a student in the school environment should perform after completing training on the task. When school personnel have conducted the task analysis and written the TLO, they must conduct a learning analysis to describe exactly what the student must learn if he/she is to reach that performance outcome. The end products of learning analysis are lists of specific knowledge and skills that the student must acquire and enabling learning objectives (ELO). While the TLO describes a test (terminal student performance), an ELO describes a practice exercise used to assess student mastery of enabling skills and knowledge that lead to the terminal performance.

6-2. REFERENCES.

- a. Course (skill/grade level) training strategy.
- b. TLO for each task to be trained.
- c. Task analysis for each task to be trained.
- d. TRADOC Regulation 350-XX.
- e. TRADOC Pamphlet 351-14.
- f. TRADOC Pamphlet 350-30 (Phase II, Design, pp. 18-22).
- g. Pipe, Peter, Objectives--Tool for Change (pp. 26-35).

6-3. PROCEDURES.

a. The designer will obtain the most current target population description (usually found in the course training strategy), the TLO for each task to be trained, and the task analysis for each task (references 6-2a through c).

b. The designer will then review one or more of the references listed in paragraphs 6-2d through g, if he/she is a novice.

c. Next the designer will conduct a learning analysis of each task. The following is a recommended approach. It calls for using the format shown at Appendix G.

- (1) Identify the major steps (large "chunks") of the performance.
- (2) Analyze each major step into substeps and, if necessary, into sub-substeps.

(a) Use the task-detailing method--i.e., convert decision steps into positive action statements (such as, "Determine . . .").

(b) The more detailed you make this analysis, the more likely you are to identify all the skills and knowledge required for task performance.

(3) Identify the skills and knowledge required to perform each major step and substep.

(a) Ask: What does a person need to know or be able to do in order to perform the step or substep?

(b) Be repetitious. If a person needs a skill or knowledge for different steps, repeat it.

(4) Identify skills and knowledge that you assume entry students possess.

(a) Draw a line through each assumed skill or knowledge.

(b) In the "NOTES" column, write: "Assumed Skill" or "Assumed Knowledge."

(5) Identify any skill or knowledge that is prerequisite to (must be learned before) any other skill or knowledge.

(a) Do not confuse prerequisite skills and knowledge with sequence of performance.

(b) Enter a brief explanation of prerequisites in the "NOTES" column. (Example: Students must learn to subtract before they can master long division.)

(6) Identify any required action or procedure that may pose a environmental or safety threat.

(a) Determine the correct actions necessary to perform parts or all of the task to minimize the threat.

(b) Enter a brief explanation of the safety hazard in the "NOTES" column. (Example: Do not operate the equipment without first ensuring that it is properly grounded to prevent electrical shock.)

d. Using the learning analysis results, the designer will then write ELO as needed. He/she will write every ELO in the same way as a TLO--i.e., it will describe the conditions, action, and standards of performance (in the school environment). These enabling objectives describe practice exercises that will be used to assess student mastery of the enabling skills and knowledge. Appendix H includes some examples of ELO.

e. The designer will ensure each ELO is adequate by checking it against the criteria shown in the checklist at Appendix H and making revisions as necessary.

f. The designer will submit the learning analyses (Task/Learning Analysis Worksheets) together with the appropriate TLO and ELO to the school commandant for coordination, review, and approval IAW Appendix C. All reviewers may use Appendix H.

g. As design and development proceed, the designer or developer will revise the learning analysis as needed. Any change in a TLO is very likely to have an impact on the subordinate skills and knowledge. The designer/developer will document all changes in the audit trail.

6-4. DISPOSITION. The proponent school will file the learning analyses, together with the TLO and ELO.

CHAPTER 7

CRITERION TESTS AND RELATED DOCUMENTS

7-1. REQUIREMENT. When DOTS has approved learning objectives, schools need to construct and validate tests to measure whether or not students have attained the objectives.

a. TRADOC Regulation 350-XX (reference 7-2b) requires that schools use criterion-referenced testing to evaluate soldiers completing courses. This means that schools will measure student performance against prescribed standards (criteria). SSI Regulation 350-22 (reference 7-2g) provides detailed guidance pertaining to the student measurement program.

b. Designers/test writers may develop many different types of tests, including pretests/diagnostic tests, student practice tests/self-tests, module/lesson tests, and post-tests/end-of-course comprehensive tests (EOCCT). EOCCT are no longer required for AIT, BNCOC, and ANCOC.

c. The procedures outlined in this chapter apply to the design, development, and validation of all types of criterion tests and to the development of test administration and scoring guides and course grading plans.

7-2. REFERENCES.

- a. AR 351-1.
- b. TRADOC Regulation 350-XX.
- c. TRADOC Regulation 350-24.
- d. TRADOC Regulation 351-10.
- e. TRADOC Pamphlet 350-30 (Phase II, pp. 35-61).
- f. TRADOC Pamphlet 351-14.
- g. SSC Regulation 350-22.
- h. Mager, Robert F., Measuring Instructional Intent: Or Got a Match?
- i. Approved learning objectives.

7-3. PROCEDURES.

- a. Test Construction and Validation. The designer/test writer will:

- (1) Read/review references 7-2a through i as appropriate.
- (2) Construct the test IAW the procedures laid out in Steps 1 through 39, Appendix I and the guidelines at Appendix J. Each test must meet the criteria specified in Appendix M.
- (3) Give the test to a qualified performer for a face-validity check. Appendix K is a form for conducting this check.
- (4) Revise the test as needed.
- (5) Prepare administrative procedures and instructions IAW Step 31, Appendix I, and Appendix L. The latter provides format and content guidance for student instructions and for test administration and scoring guides. Usually every test will require its own student instructions. However, depending on similarity in test design, the designer may or may not consolidate test administration and scoring instructions for multiple tests into a single guide.
- (6) Present the test to two or three impartial experts for technical review IAW Step 32, Appendix I. (Impartial experts are designers, developers, instructors, or other people who have had no role in the design of the test.) They should use the test review checklist at Appendix M during this review.
- (7) Revise the test and/or administrative procedures and instructions as needed. If the designer makes revisions, he/she should repeat the technical review performed during the previous step, using different impartial reviewers.

NOTE: At this point, the designer may consider the test valid. However, if time and other resources permit, he/she may conduct a more formal validation, using master and nonmaster performers. Defining "master performer" is sometimes a problem. (Job incumbents may have to rate themselves on task mastery.) Nonmasters should be members of the student population which will use the test. In general, one may consider the test valid if master performers do well on the test and nonmaster performers do poorly. In other words, this validation effort indicates whether or not the test discriminates between experts and those who have received no instruction. The designer should use the form at Appendix N during this formal validation.

b. Test Approval. After he/she has validated a test, the designer/test writer will submit it, with administration and scoring instructions, approved TLO, validation data, and completed Test Review Checklist (Appendix M), to the school commandant for review, coordination, and subsequent transmittal to the DOTS director for approval IAW Appendix C. Schools will transmit tests via the Product Review/Control Sheet (FJ Form 350-100-19) shown at Appendix O.

c. Alternate Test Versions. Once the designer/writer has validated a test, he/she will construct alternate versions of the test if needed. All AIT courses, BNCOC, and ANCOC must have two versions of each test. Alternate versions should reflect the same format, the same coverage of subject matter, the same standards, and, as closely as possible, the same level of difficulty as the original version. The designer/writer should use procedures outlined in paragraph 7-3a in developing and validating alternate versions of the test.

NOTE: Ordinarily it is not practical to take steps to verify the equivalency of alternate test versions. However, if desired, the test designer/writer can consult with testing specialists in DOTS to obtain procedures for determining or verifying the comparability of alternate test versions.

d. Course Grading Plan. When DOTS has approved all tests:

(1) The designer, in concert with the course director, will prepare a Course Grading Plan using the form shown at Appendix P. The plan will conform with the requirements spelled out in paragraph 7-1 of this regulation and in reference 7-2g.

(2) The designer will submit the Course Grading Plan to the school commandant for review, coordination, and approval IAW Appendix C. He/she will then submit the plan to the DOTS Test Coordinator.

(3) The DOTS director will approve/disapprove the course grading plan for the USASSI Commandant IAW Appendix C.

7-4. DISPOSITION.

a. The Test Coordinator, DOTS, will file master copies of all tests, answer keys, and Course Grading Plans.

b. The proponent school will file a copy of each test (with approval and validation documents), each test administration and scoring guide, and each Course Grading Plan.

c. Schools and DOTS will protect all tests and answer keys IAW USASSI academic security policies and procedures. (See SSI Regulation 350-22.)

CHAPTER 8

LEARNING ACTIVITIES

8-1. REQUIREMENT. When school personnel have written learning objectives, constructed criterion tests, and established learning sequence, they must determine the learning activities which will ensure that instruction is effective, efficient, and directly related to task performance. It is also necessary to determine the type of delivery system that they will use for the training. This means that they must select instructional media and methods. These decisions are extremely critical because they impact not only on training effectiveness, but also on the cost of developing, implementing, and maintaining the training. Moreover, these decisions determine whether the training will be interesting and challenging. Designers should not assume that every lesson will be delivered via conference/lecture, for instance. Rather they should make conscious decisions to ensure that the activities, methods, and media are appropriate for the particular student population and for the desired learning outcome.

8-2. REFERENCES.

- a. TRADOC Regulation 350-XX.
- b. TRADOC Regulation 350-26.
- c. TRADOC Pamphlet 350-30 (Phase III, Develop).
- d. TRADOC Pamphlet 350-XX.
- e. TRADOC Pamphlet 351-1.
- f. TRADOC Pamphlet 351-14.
- g. Course/skill level training strategy.
- h. Learning objectives.
- i. Learning analysis results.

8-3. PROCEDURES.

a. The designer will specify learning activities for each learning objective by following the procedures in reference 8-2c. The generic steps in this process include:

- (1) Identify general learning guidelines. The four guidelines listed in reference 8-2d will apply to almost every learning objective.

(2) Classify each learning objective by category and subcategory of learning. Note that the action verb in the objective should provide a clue to the learning category and subcategory. Table III.6, pages 12-16, reference 8-2c, is a useful tool for classifying objectives.

(3) Identify learning guidelines that apply to each learning subcategory for each learning objective. Pages 34-104, reference 8-2d, provide decision tables (flowcharts) and narrative learning guidelines for each learning subcategory.

(4) Specify learning activities for each learning objective. List these activities in the format shown at Appendix Q.

b. The designer will describe the environment in which the learning will take place, using the checklist shown at Appendix R. If there is a definite location where the school must conduct the training, the designer needs to prepare only one checklist. However, if the school conducts the training at more than one location or if there are options in location, the designer will describe each one on a separate checklist.

c. The designer will select the medium/media appropriate to each learning activity IAW reference 8-2c or 8-2f. He/she may use the worksheet shown in Figure III.4, page 109, of reference 8-2d during the media selection process. Generic steps include:

(1) Select a pool of media mixes.

(2) Select media from the pool of media mixes. Consider cost and other administrative criteria. Table III.7, page 112, reference 8-2c, provides a relative cost comparison of different media.

(3) Reject impractical approaches. Pages 120-121, reference 8-2c, list important rejection factors.

(4) Select the optimum media mix and provide written rationale for this selection.

d. Using information derived during the previous steps, the designer will prepare instructional planning worksheets in the format shown at Appendix S.

e. The designer will submit the instructional planning worksheets to the school commandant for review, coordination, and approval IAW Appendix C.

f. When the school commandant has approved the instructional planning worksheets, the designer will prepare a sequential list of the learning activities. He/she will base this on the learning analysis, the learning activities specified, the media selected, and the learning constraints identified.

g. The designer will then update the course/SL training strategy and submit it to the school commandant for review, coordination, and approval IAW Appendix C. At a minimum, the designer will update the following parts of the strategy:

- (1) Description of student flow, including a detailed listing of learning activities and learning sequence.
- (2) Description of the need and provisions for remediation.
- (3) Description of the need and provisions for spaced practice/reinforcement.
- (4) Listing of facilities and equipment needed for the course.

h. When the school commandant has approved the updated strategy, the designer will then review existing materials IAW Chapter 2 of this regulation.

8-4. DISPOSITION. The proponent school will file the following materials: lists of learning activities; description(s) of the learning environment; media selection worksheets; approved instructional planning worksheets; updated and approved course/SL training strategy; and coordination and approval documents.

CHAPTER 9

PROGRAM OF INSTRUCTION (POI)

9-1. REQUIREMENT. A POI is a Training Requirements Analysis System (TRAS) document that describes a formal resident course in terms of its purpose, prerequisites, content, instructional mode, length, and required resources. It serves to document approval of those course essentials. It also provides the basis for determining and procuring resources for operating the course. The proponent school drafts the POI near the end of the design phase and DOTS submits it to TRADOC for review at least 6 months prior to the implementation of training. POIs are developed using the POIMM and are submitted to DOTS on diskette.

9-2. REFERENCES.

- a. AR 37-100.
- b. AR 350-1.
- c. DA Pamphlet 351-4.
- d. TRADOC Regulation 351-1.
- e. Individual Training Plan (ITP).
- f. Course/skill level training strategy.
- g. TLO and ELO for each task to be trained in the course.
- h. Task summary (Soldier's Manual/Officer Foundation Standard Manual page) for each task to be trained in the course.
- i. MOS training plan (MTP) from the Soldier's Manual/Trainer's Guide (SM/TG), if applicable.
- j. OFS Developmental Matrix from the branch Officer Foundation Standard Manual (OFSM), if applicable.
- k. Current ARPRINT computer printout.
- l. Previously submitted CAD for the course.
- m. Program of Instruction Management Module (POIMM) Users Manual.

9-3. PROCEDURES.

- a. The designer, in concert with the course director, will:
 - (1) Obtain copies of the references listed in paragraph 9-2.

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(2) Draft a POI using POIMM. This may require coordination with the TRAS POC in DOTS.

(3) Submit the POI to the school commandant for review and internal coordination.

(4) Submit a copy of the POI to NCOA for coordination of RNCOOC and ANCOOC courses.

(5) Revise the materials IAW coordination feedback and resubmit them to the school commandant.

b. The school commandant will approve for content and forward the POI to DOTS for subsequent review, coordination, and submission IAW Appendix C.

c. The TRAS POC in DOTS will:

(1) Review the POI, ensuring they meet the requirements of references 9-2d and 9-2m, agree with the training strategy laid out in the current ITP, and agree with the most up-to-date MOS Training Plan in the Soldier's Manual/Trainer's Guide (if applicable) or OFS Developmental Matrix in the Officer Foundation Standard Manual (if applicable).

(2) Coordinate the POI IAW Appendix C. If necessary, he/she will revise the materials and coordinate changes with the school designer and the school commandant.

(3) Draft a memorandum of transmittal to the TRADOC Manpower Agency (TMA).

d. The DOTS director will submit the POI on diskette and the transmittal memorandum to the TMA for validation of the ICH, optimum class size, course length, and for review of the POI equipment and facilities summaries.

e. When the TRAS POC in DOTS receives the TMA validation memo, he/she will draft a transmittal memo to HQ TRADOC IAW references 9 2d and m.

f. The DOTS director will forward the POI on diskette to HQ TRADOC for review IAW reference 9-2d and m.

g. After HQ TRADOC has reviewed and approved the POI for resourcing purposes, the TRAS POC in DOTS will forward the approved POI on diskette to the school commandant.

9-4. DISPOSITION. DOTS will file record copies of the following documents, while the proponent school will file information copies:

a. Approved POI and reviewers' comments.

- b. Correspondence relating to the POI.
- c. Approval documentation.

APPENDIX A

REFERENCES

Army Regulations

- 25-400-2 The Modern Army Recordkeeping System (MARKS)
- 37-100 Account/Code Structure
- 108-2 Army Training and Audiovisual Support
- 350-1 Army Training
- 350-10 Management of Individual Training Requirements and Resources
- 351-1 Individual Military Education and Training

DA Pamphlets

- 25-30 Consolidated Index of Army Publications and Blank Forms
- 350-100 Extension Training Materials Consolidated MOS Catalog
- 351-4 Army Formal Schools Catalog
- 351-20 Army Correspondence Course Program Catalog

Field Manuals

- 25-4 How to Conduct Training Exercises
- 25-5 Training for Mobilization and War
- 25-100 Training the Force
- 25-101 Battle Focused Training
- 100-5 Operations

TRADOC Regulations

- 310-2 Design, Development, Preparation and Management of ARTEP Documents
- 350-24 Basic and Advanced NCO Training in TRADOC Noncommissioned Officer Academies (NCOA)

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TRADOC Regulations (cont'd)

- 350-26 Using Computers to Train
- 350-XX Training Development Process, Management, and Product Development
- 351-1 Training Requirements Analysis System (TRAS)
- 351-10 Guidelines for the Development of Enlisted Training
- 351-11 Soldier Training Publications (STP) Policy and Procedures
- 351-12 Military Qualification Standards (MQS) System Products, Policy and Procedures (MQS to become Officer Foundation Standard [OFS] upon next revision)

TRADOC Pamphlets

- 71-9 TRADOC Training Devices for Armywide Use
- 350-XX Multimedia Courseware Development Guide
- 350-30 Interservice Procedures for Instructional Systems Development
- 351-1 Extension Training Material (ETM) Management and Development
- 351-14 Systems Approach to Training Design

TRADOC Circular

- 351-88-1 Interactive Courseware (ICW) Management and Development

USASSI Regulations

- 350-19 Individual Analysis
- 350-21 Resident Course Development
- 350-22 Resident Student Measurement

Books

Dillman, Caroline Matheny and Harold F. Rahmlow, Writing Instructional Objectives (Belmont, CA: Fearon Publishers, Inc., 1972).

Mager, Robert F., Measuring Instructional Intent: Or Got a Match? (Belmont, CA: Fearon-Pitman Publishers, Inc, 1973).

Books (cont'd)

Mager, Robert F., Preparing Instructional Objectives (Belmont, CA: Fearon Publishers, Inc., 2nd., 1962).

Pipe, Peter, Objectives--Tool for Change (Belmont, CA: Fearon Publishers, Inc., 1975).

APPENDIX B

SUMMARY OF INSTRUCTIONAL DESIGN

STEP	PROCESS	PRODUCT(S)	SUBMISSION
1	Identify and collect existing materials	List of all existing materials/programs and their locations	None
2	Develop a training strategy for the course or skill level or grade level	Draft training strategy	None
3	Submit Course Administrative Data (CAD)	CAD	TRADOC Manpower Agency HQ TRADOC
4	Write terminal learning objectives (TLO)	TLO for each task/subject in the course (or SL or grade level)	None
5	Conduct learning analysis	Learning analysis results, including lists of enabling learning objectives (ELO) and lists of skills and knowledge	None
6	Construct and validate criterion tests and related documents	Draft criterion test for each TLO Validated criterion test for each TLO Alternate versions of each test Validation data (face-validity checks, training-test review critique sheets) Test Administration Scoring Guide(s) Course Grading Plan	None

STEP	PROCESS	PRODUCT(S)	SUBMISSION
7	Specify learning activities, select media, and sequence instruction	Lists of learning activities Descriptions of the learning environment(s) Media selection worksheets Approved instructional planning worksheets	None
8	Update the course/SL training strategy	Revised course/SL training strategy	None
9	Review existing materials	List of materials that can be used without modification List of materials that can be used with modification List of training voids	None
10	Draft a Program of Instruction (POI)	Draft POI and ICH sheets Reviewers' comments POI transmittal memorandum Approval documentation	TRADOC Manpower Agency HQ TRADOC

APPENDIX C

COORDINATION AND APPROVAL PLAN FOR INSTRUCTIONAL DESIGN

PRODUCT	PREPARATION	COORDINATION	REVIEW	APPROVAL	REMARKS
1. List of existing materials & their locations	Designer	As determined by School Commandant	School Commandant	School Commandant	
2. Course (Skill Level/Grade Level) training strategy	Designer	As determined by School Commandant	School Commandant	School Commandant	School Commandant will also approve revised/updated strategy.
3. Course Administrative Data (CAD)	Designer in concert with DOTS	DOTS NCCA Course Directors	DOTS TMA	School Commandant	DOTS Director reviews all CAD for compliance with TRADOC guidance. DOTS submits CAD to TRADOC 36 months before the start of the FY in which new/revised training will start. TRADOC reviews and approves CAD after local approval.
4. Learning Objectives	Designer	As determined by School Commandant	DOTS	School Commandant DOTS	Learning objectives include TLO & ELO.

APPENDIX C

COORDINATION AND APPROVAL PLAN FOR INSTRUCTIONAL DESIGN
(Continued)

PRODUCT	PREPARATION	COORDINATION	REVIEW	APPROVAL	REMARKS
5. Learning Analysis worksheets and lists of skills & knowledge	Designer/ Analyst	As determined by School Commandant	School Commandant	School Commandant	Learning analysis may be combined with task analysis; as a minimum, learning analysis must identify skills & knowledge needed for task performance.
6. Criterion Tests, to include alternate test versions & validation results.	Designer	See Remarks	School Commandant NCCA DOTS	School Commandant DOTS	Designer will conduct face-validity checks with SME & instructors.
7. Test Administration & Scoring Guides	Designer	As determined by School Commandant	NCCA DOTS	DOTS	
8. Course Grading Plan	Designer	As determined by School Commandant	NCCA DOTS	School Commandant DOTS	DOTS director approves grading plans for SSI Cdr.

APPENDIX C

COORDINATION AND APPROVAL PLAN FOR INSTRUCTIONAL DESIGN
(Continued)

PRODUCT	PREPARATION	COORDINATION	REVIEW	APPROVAL	REMARKS
9. Learning Activity Specifications	Designer	As determined by School Commandant	School Commandant	School Commandant	Includes lists of learning activities, learning-environment description(s), media selection worksheets, instructional planning worksheets, & learning sequence.
10. Results of Existing Materials Review	Designer	As determined by School Commandant	School Commandant	School Commandant	Includes lists of materials that can be used without change, materials that can be used with change, and training voids.
11. Program of Instruction (POI)	Designer in concert with DOTS	As determined by School Commandant	NCDA DOTS TMA	School Commandant	DOTS director reviews POI for compliance with TRADOC guidance. DOTS sends POI for new/ revised course to TRADOC 6 months before the course start date. TRADOC reviews and approves POI after local approval.

APPENDIX D

EXISTING MATERIAL REVIEW
CHECKLIST

	YES	NO
Have you reviewed the learning analysis and objectives carefully? Do you know what you are looking for?	___	___

SOURCES. Did you:

- | | | |
|--|-----|-----|
| 1. Contact the appropriate department at the school and ask them to supply their existing materials? | ___ | ___ |
| 2. Obtain the correspondence courses/subcourses for your subjects? | ___ | ___ |
| 3. Check the library for materials stored there? | ___ | ___ |
| 4. Check the MOS Training Plan or OFS Developmental Matrix against the task to be trained? | ___ | ___ |
| 5. Check the appropriate ARTEP MTP against the task to be trained? | ___ | ___ |

VALIDATION DATA.

- | | | |
|---|-----|-----|
| 1. Have the materials been validated? | ___ | ___ |
| 2. If the materials were validated, were they validated on a target population which is similar to yours? | ___ | ___ |

CONDUCT OF THE REVIEW.

To determine if you can use existing materials as is, the answers to the following questions must all be YES.

- | | | |
|--|-----|-----|
| 1. Do the constraints that you identified earlier permit the use of the materials? | ___ | ___ |
| 2. Are the materials suitable for the entry characteristics of the students? | ___ | ___ |

3. Do the materials have an introduction that lists the purpose, objectives, and required materials?
4. Are student directions clear and accurate?
5. Are the materials technically correct?
6. Do the materials provide appropriate practice?
7. Is there a means whereby the students either test themselves or are tested on their performance?
8. Is emphasis on performing the task rather than on theory, background, etc?
9. Do the materials cover only what your task and learning analysis say they should cover?
10. Are the materials suitable from the standpoint of avoiding duplicate training? (i.e., The students will not see these same materials during lower or higher skill level training.)

If the answer to any of the questions above is NO, then you must consider whether or not you can modify and use the materials. These questions might guide you.

1. Can you add an introduction, practice exercise, etc., easily without destroying the materials?
2. Can you easily and effectively alter portions that are not technically accurate?
3. Can you delete portions of the materials without rendering them useless?
4. Will the materials be useful if placed in a different mode, e.g., can you place a lecture on TV tape?
5. Can you use portions of materials as references, supplements, etc?
6. If using the materials "as is" would create a duplication of training, can you tailor the examples, situations, etc., to make them suitable for your particular student population at their particular skill level? (e.g., ANCOG students should not see the same materials they had in BNCOG. ANOCC students require more complex situations, examples, etc.)

If the answers to the above six questions are all NO, then you'll have to discard the materials and either look elsewhere, or design your OWN!!

APPENDIX E

TASK STRUCTURE ANALYSIS WORKSHEET					
TASK STATEMENT <u>Write Learning Objectives.</u>					
CUES <u>Requirement to identify and state a behavior in terms that communicate a learning outcome. (Go to Step 1)(Given a task list, tests, classroom activities, curriculum requirements, regulatory guidance, task analyses, taxonomies, verb lists.)</u>					
STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
1	Select the performance/skill for which you will be writing this objective.	X	X	2	Task List
2	Is the performance described in terms of what the student will do? (As opposed to what the instructor or materials will do.)		4	3	X
3	Revise the performance statement to reflect the behavior required of the student.	X	X	4	
4	Is the performance described as an observable act by using an action verb and object?		6	5	X
5	Revise the performance statement by identifying and naming an action verb that is observable and reflects the desired behavior.	X	X	6	See taxonomies, verb lists.
6	Can you improve (further clarify) the action described by adding a qualifying verb?		7	8	X
7	Add a qualifying verb.	X	X	8	
8	Is the action as described measurable within the testing environment?		12	9	X
9	Can you modify the action without sacrificing fidelity?		10	11	X
10	Restate the action.	X	X	2	
11	Identify and name an indicator of performance that you'll accept as evidence of achievement in the learning and testing situation. NOTE: When sacrificing fidelity for the learning and testing situation, be careful not to deviate too far from the original skill. See available taxonomies for guidance.	X	X	12	
12	Are there any special conditions under which you will observe and measure this behavior?		13	20	X
					NOTE: It is not necessary to state obvious conditions mutually understood by learner and evaluator.

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PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

APPENDIX E

TASK STRUCTURE ANALYSIS WORKSHEET 1					
TASK STATEMENT _____					
CUES _____					
STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
	a. Limit the behavior.				
	b. Expand the behavior.				
	NOTE: Exclude acts that are unacceptable as evidence of achievement.				
13	List qualifiers and/or conditions.	X	X	14	
14	Are there any conditions of performance which are inherent to the "real world" task but which you cannot duplicate in the learning environment? (Consider safety, cost, practicality, time, etc.)			X	
15	Can you use substitute or simulate conditions?			X	
16	Revise the list of conditions to reflect substitutions or simulations.	X	X	18	
17	Delete the condition(s).	X	X	18	
18	Does the deletion or alteration of any condition(s) affect the behavior as described?			X	
19	Rewrite the action statement to best reflect the desired behavior under the required conditions.	X	X	20	
20	Identify all information, materials, and aids the performer will receive or have access to.	X	X	21	
21	Write a complete statement of the conditions based on steps 11 through 19.	X	X	22	
22	Will this behavior result in a measurable product for assessment?			X	
23	Identify and list those important product characteristics that you will assess.	X	X	24	

APPENDIX E

TASK STRUCTURE ANALYSIS WORKSHEET					
TASK STATEMENT _____					
CUES _____					
STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
24	Will you assess the process of the behavior?	25	26	X	Note: If you answered NO to step 22, you must answer YES here. If you cannot, you do not have an observable behavior. If this is the case, go back to step 1.
25	Identify and list those steps and decisions (and sequence, if applicable) that you will assess.	X	X	26	
26	Identify and record the qualitative and/or quantitative measures of the product and/or process that are the lower limit of acceptable performance. (Consider time, percentages, necessary attributes, etc.)	X	X	27	
27	Write a complete statement of standards based on steps 21 through 25.	X	X	28	
28	If there is any question as to the composition or qualitative and quantitative limits of your standards, annotate your statement of standards to reflect your concern and to signal possible modification based on future input. (Resolve or remove this prior to giving the objective to the student.)	X	X	29	Note: Concerns may include lack of precedent, lack of consensus, lack of absolutes, etc.
29	Incorporate the performance (action), conditions, and standards into a desired format.	X	X	30	
30	Does the completed objective: a. Describe an intended outcome of instruction (as opposed to a description or summary of content)? and b. Describe what the learner must do? and c. Communicate the instructional intent of the writer?	EOT	31	X	
31	Revise as necessary.	X	X	EOT	

APPENDIX F

CHECKLIST FOR EVALUATING AN OBJECTIVE

	YES	NO	COMMENTS
1. Are the behaviors (skills) in the objective important (not trivial)? NOTE: If you do not feel qualified to answer this question, check with a qualified performer.			
2. Does the objective contain an action statement written in behavioral terms?			
3. Does the action statement in the objective describe what the <u>student/learner</u> will do as opposed to what the instructor or instruction will do?			
4. Does the objective describe the conditions under which the student will perform the action?			
5. Does the objective describe the standards against which the action will be measured?			
6. Is the objective applicable to a <u>school</u> environment as opposed to a <u>job</u> environment?			
7. Does the objective describe an <u>outcome</u> of instruction as opposed to what the student will do <u>during</u> instruction? (i.e., Does the objective describe the test rather than the training?)			
8. Is the writer's intent clearly communicated to another qualified performer?			

ACCEPTABLE OBJECTIVES RESULT IN A "YES" ANSWER TO EACH ITEM ABOVE.

APPENDIX H

ENABLING LEARNING OBJECTIVES
EXAMPLES

TASK: Process MOS Classification/Reclassification Actions

TERMINAL LEARNING OBJECTIVE (TLO)

CONDITIONS: Given a request for MOS Classification/Reclassification, DA message (Subject: Reenlistment/Reclassification In-Out Call), a soldier's [Personnel Qualification Record, AR 600-200, AR 611-201, and standard office supplies and equipment.

ACTION: The student will determine if the soldier is eligible for award of the requested MOS and if reclassification is authorized.

STANDARDS: IAW the DA message, AR 600-200, and AR 611-201.

ENABLING LEARNING OBJECTIVES

1. CONDITIONS: Given a DA message (Subject: Reenlistment/Reclassification In-Out Call), a soldier's DA Forms 2A and 2-1, AR 611-201, and standard office supplies and equipment.

ACTION: The student will determine if the soldier is eligible for award of the requested MOS.

STANDARDS: IAW the DA message and AR 611-201.

CHECKLIST FOR EVALUATING ENABLING LEARNING OBJECTIVES

<u>STEP</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
<p>1. Check each enabling objective for <u>substance</u>.</p> <p>- Is there anything to the objective? Does it contain skills and knowledges that are distinct and difficult enough to justify instructing and measuring this ELO?</p>			
<p>2. Check each enabling objective to be sure it is <u>self-contained</u>.</p> <p>- Does the ELO identify <u>all</u> the skills and knowledge the student will need to complete this ELO outside of prerequisites?</p> <p>- Does the ELO identify <u>only</u> those skills and knowledges needed to complete the ELO? (The ELO should not include skills and knowledges that go beyond its parameters.)</p>			
<p>3. Looking across the skills and knowledges of all the enabling objectives, check for <u>duplication</u>.</p> <p>- Does more than one enabling objective address the same skills and knowledges? (Sometimes this cannot be helped if the objectives are to be self-contained. However, if there is too much overlap, combining or restructuring objectives may be necessary.) Is the degree of overlap acceptable?</p>			
<p>4. Examine all supportive skills and knowledges for complexity and difficulty. Identify "candidates" for objective status.</p> <p>- Many times, upon a second look at the learning analysis, a supporting skill or knowledge (or group of supporting skills or knowledges) within an enabling objective may appear</p> <p style="text-align: right;">(Cont'd)</p>			

STEP	YES	NO	COMMENTS
difficult enough to be a separate objective by itself. Are there any skills or knowledges in the ELO that should be a separate ELO?			
5. Make needed revisions as indicated by results of steps 1 through 4.	NA	NA	
6. Compare the enabling objectives with the terminal objective.			
- Does the ELO contain <u>all</u> the essential skills and knowledges needed to complete the ELO? Write down anything missing.			
- Does the ELO contain any skills and knowledges that are unnecessary for completion of the TLO? Check those S & K that are in question.			
- This time also look at the conditions and standards of the TLO. Do the conditions <u>give</u> the student information that he/she should have to <u>recall</u> from memory? Do the standards require something that the ELOs do not address?			
7. Examine those skills and knowledges identified in step 6. Determine their relationship to the terminal objective.			
- They should fall into one of the following categories:			
a. Essential			
b. Irrelevant			
c. Nice-to-know			
d. Prerequisite			
- Have you identified any as category b, c, or d? If so, you should consider these for elimination.			

STEP	YES	NO	COMMENTS
8. Based on the results of step 7, add, delete, or revise enabling objectives as necessary.	NA	NA	
9. Repeat this process for each learning analysis, or at least in cases where you doubt the quality of the enabling objectives.	NA	NA	

A FINAL CHECK

Take a hard look at the enabling objectives. Remember, you are saying:

1. This terminal objective will be easier if it is broken down into component parts.
2. These parts (the enabling objectives), as written, describe the easiest and most efficient way for the student to learn the terminal objective.
3. These enabling objectives contain the skills and knowledges necessary to complete the terminal objective --NO MORE, NO LESS.
4. These enabling objectives describe practice exercises that will be used to assess student mastery of the enabling skills and knowledges.

APPENDIX I

TASK STRUCTURE ANALYSIS WORKSHEET					
TASK STATEMENT _____					
CUES _____					
STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
	SPECIAL NOTE:				
	This analysis operates on the premise that the performance objective describes the ultimate test. If you have a well-written objective, you already have the basis of your test. The following steps will help you address varying styles of objective and perhaps further clarify an objective or modify it to meet the constraints of your testing environment. But these steps are not sufficient to correct a poor objective.				
4	Is the action statement of the objective in overt terms?	6	5	X	Directly observable as opposed to inferred.
5	The objective depicts a covert action. Select an indicator and/or a qualifier that makes the action overt.	X	X	6	Be sure the indicator and or qualifier does not change the main intent of the objective.
6	Is this action the simplest and most direct way to test the objective? That is: a. It does not obscure the main intent. b. It does not require additional skills that are not germane to this objective. c. It does not call for a response mode beyond the capabilities of your target audience.	8	7	X	Consider you student's characteristics.
7	Revise action.	X	X	8	Warning: Whenever possible, avoid substituting verbs. When it is necessary, be careful not to change the primary behavior.
8	Can the conditions of the objective be achieved, as stated, in this testing situation? (That is, there are no environmental, economic, managerial, or administrative constraints that preclude the use of the stated conditions.)	12	9	X	

APPENDIX I

TASK STRUCTURE ANALYSIS WORKSHEET

TASK STATEMENT _____

CUES _____

STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
9	Can you simulate or otherwise modify the conditions without changing the main intent of the objective?	11	10	X	
10	Reexamine the objective.	X	X	2	
11	Draft description of simulated or modified conditions.	X	X	12	
12	Are the conditions varying? That is, will it be necessary to test the action separately to address different conditions?	13	15	X	
13	Draft descriptions of items (or testing situations) that sample the range of conditions.	X	X	14	
14	Review items/situations from Step 13, ensuring that: a. All meet the main intent of the objective. b. Your sampling is sufficient to satisfy the requirements of the objective.	X	X	15	
15	Would a single performance of the action satisfy you that the student has met the objective?	17	16	X	NOTE: Be sure to consider each item addressing a distinct condition of set of conditions.
16	Draft descriptions of additional items/situations needed, ensuring that all items addressing the same conditions are equivalent. NOTE: At this point, you should have a draft of one or more test items/situations that meet the conditions and actions of your objective. The following steps are concerned with the results of this combination. To avoid clumsy wording problems, we will use only the word "item" from here on. We realize you may have several "items," but, as you will soon see, what is said of one item applies to all items.	X	X	17	Use of the same action verb should ensure equivalency. Be careful if you use synonyms.

APPENDIX I

TASK STRUCTURE ANALYSIS WORKSHEET					
TASK STATEMENT _____					
CUES _____					
STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
17	Does this item result in an end product that you will assess? (Does the student construct something or select an answer?)	18	25	X	
18	Does the action require the student to "construct" the product? (As opposed to selecting it from a pool of alternatives.) (NOTE: This product can range from a thesis to a one-word answer.)	19	22	X	
19	Do the standards of the objective provide enough detail to serve as the rating/scoring device for the product?	25	20	X	
20	Construct a product rating/scoring key to include, as applicable: a. All acceptable answers. b. Indicators/attributes that must be present. c. Identification of characteristics that cannot be present. d. Description of the range/limits needed to make a GO/ NO GO decision on the product.	X	X	21	See any standard text on educational testing.
21	Ensure your scoring requirements do not exceed or fall below the criteria stated in the objective.	X	X	25	
22	(A selection response is required.) Do the action and/or conditions mandate a specific type or format of selection response?	24	23	X	Matching, multiple-choice
23	Select a selection response format that meets the intent of the objective.	X	X	24	See any standard text on educational testing.
24	Construct a pool of alternative selections appropriate to the format. Be sure to address and stay within the parameters of the conditions. The pool will contain the correct choice along with plausible but incorrect choices.	X	X	25	NOTE: The conditions will often define limits of e.g., from a list of drugs, choose

APPENDIX I

TASK STRUCTURE ANALYSIS WORKSHEET

TASK STATEMENT _____

CUES _____

STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
25	Do the action and conditions of the item require the assessment of a process? That is:	26	30	X	NOTE: If you answered "NO" to step 17, you must have a "YES" here. If you do not, you have nothing to test.
	a. Does the correctness of the outcome or the quality of the product depend directly on the performance of a specified procedure?				
	b. Can you accurately measure the extent to which an individual deviates from accepted procedure?				
	c. Is the evidence you need to evaluate the performance found in the way the student carries out the performance?				
26	Will enough staff or qualified observers be available to observe, record, and score the procedures used during the tests?	29	27	X	
27	(The evaluation of the process is not practical.) Can you revise your item to yield a product from which you can reasonably infer the student's ability to perform the process? Or, if the item called for both product and process, will product alone suffice?	28	2	X	EXAMPLES: Describe the steps in a procedure; Construct a plan.
28	Revise the conditions and action of the item so that it calls for a product.	X	X	17	WARNING: You are on dangerous ground here. Once you do this, you can't help but stray from the main intent of the objective. If you feel you are deviating too much, go to Step 2.
29	Construct a checklist for scoring. The checklist should:	X	X	30	See standard text on educational testing.
	a. Contain the events and activities that are time- and job-sequenced.				
	b. Identify those steps that are critical so you can distinguish between "good" and "bad."				
	c. Be designed so the instructor/observer can readily note presence or absence of scoring factors.				

APPENDIX I

TASK STRUCTURE ANALYSIS WORKSHEET					
TASK STATEMENT _____					
CUES _____					
STEP	PROCEDURES	YES	NO	GO TO	CONDITIONS
30	Review the test item for accuracy, clarity and adherence to the intent of the objective. Revise it as necessary.	X	X	31	If resources and time permit, give the item to a qualified performer for a face validity check.
31	Prepare student instructions, administration instructions, and scoring instructions IAW Appendix L.	X	X	32	See any standard text on educational testing.
32	Conduct a technical review with: a. A qualified performer to verify content accuracy. b. An instructor/designer to verify that the total amount of information the test conveys includes desired behavior, the conditions and directions calling for the behavior, and the criteria identified in the scoring key(s).	X	X	33	An impartial instructor/designer should do this by comparing the test to the objective.
33	Is this test for a single administration?	X	X	34	X
34	Validate the test with a master/non-master population (small groups).	X	X	35	
35	Note and correct deficiencies identified during validation.	X	X	36	
36	Administer to the appropriate student population.	X	X	37	
37	Did the initial administration reveal deficiencies?	X	X	38	X
38	Revise as necessary.	X	X	39	NOTE: In actuality, you should continue with the administration/revision process until the test meets established validation criteria or, in the absence of established criteria, until you are satisfied that the test is a valid instrument.

APPENDIX J

GUIDELINES FOR DEVELOPING MULTIPLE-CHOICE TEST ITEMS

1. Tests should measure the kind of behavior required on the job. Therefore, you should design full performance tests whenever possible. Such tests require the student to produce a product (product scored) or perform a process (observer scored). When a full performance test is not feasible, you should design a performance-based (answer-scored) test. Only when the nature of the task/subject precludes a performance-based test, should you prepare a knowledge test.

2. The majority of tests in USASSI's resident inventory are answer-scored. Your use of the following guidelines will standardize and improve the quality of answer-scored tests and practical exercises (PEs). The guidelines primarily pertain to a multiple-choice format. Use them to design any new multiple-choice PEs/tests and to revise such PEs/tests.

GUIDELINES FOR DEVELOPING MULTIPLE-CHOICE
ITEMS FOR TESTS/PRACTICAL EXERCISES

The multiple-choice item consists of two parts: (1) the item stem or lead which asks a question and (2) several answer choices (responses or alternatives) one of which will answer the question in the stem. We call correct responses answers; we call incorrect responses distractors.

Use the following guidelines to help you develop multiple-choice written performance tests/practical exercises (PEs). Most of the guidelines can apply to any test.

1. Design a test that measures the skills and knowledge the soldier uses on the job to perform a task (i.e., a test that measures student attainment of the learning objective). Test key elements of the task. Relate each item to task performance. Design items which will show that students can do the task. Each item should be the best indication possible of the student's ability to do the related performance step. The task test should be as "close" as possible to actual task performance.
2. Include enough questions to adequately assess task performance and make it unlikely that students will pass the test/PE by chance. With rare exceptions, this will be a minimum of four questions. Additional questions may be necessary for more complex tasks.
3. Develop each item so that everyone who is competent in the subject matter would agree on the correct response.
4. Avoid trick questions, unimportant details, ambiguities, and leading questions because they can make no possible contribution to effective evaluation. Instead, they can confuse and antagonize the student. When you clearly keep in mind the training objective for the task and the purpose of the task, you will not use these devices.
5. Each item can contain only one central problem; i.e., measure only one skill or piece of knowledge in a test question. For example, the question "Does SGT Brown meet the educational and citizenship requirements for the assignment?" contains two problems. It is difficult to write clear alternatives for this type question. If determining education and citizenship requirements are key elements of the task, write two separate questions.

6. Keep each item independent of every other item on the test. Don't allow one item to reveal the correct answer to another item. Likewise, do not make the solution of one item dependent on the correct solution of another item. Dependent questions prevent you from pinpointing deficiencies in student comprehension and instruction. These types of items can penalize students twice for the same error.

Example of a Dependent Item

Test items 1, 2, and 3 require computations for separate blocks on a form. To obtain the answer for test item 4, you must add together the answers for test items 1, 2, and 3. Obviously, you must answer test items 1, 2, and 3 correctly before you can answer test item 4 (the dependent item). You can avoid the dependent test item 4 by constructing a new situation; i.e., provide the information for test items 1, 2, and 3 and then ask the students to use this information to determine the answer for test item 4.

NOTE: For initial practical exercises and reinforcement training, it is acceptable to have dependent items for some tasks; e.g., Prepare a Promotion Point Worksheet, Compute a Travel Voucher. Students must learn to perform the entire task. You can reinforce instruction by using a PE which requires students to perform all steps in the task. The PE allows students to discover that an error in one performance step creates an error in another performance step. However, the final PE must mirror the test format.

7. When you can, prepare illustrations of source documents used on the job instead of giving information in a situation. For example, if a test requires a 75B AIT student to prepare the SIDPERS input for a departure transaction, then the test should include illustrations of the reassignment order and the sign-out register. It's unrealistic to provide the information needed to do the SIDPERS input in a written situation.

8. Group all questions involving specific parts of a task/function together. For example, if you are writing test questions concerning determining the eligibility to apply for some program and the documents needed to accompany the application for the program, arrange the questions on eligibility together and the questions on the documents needed to accompany the application together. Also, you should almost always arrange questions in the same sequence

as items/blocks appear on a form or names appear on reports (e. g., Personnel Transaction Registers by Originator, JUMPS Transaction Reports) so the questions mirror the sequence of actual job performance.

9. When tasks/functions are trained and tested in both BNCOOC and ANCOOC or in both OBC and OAC, try to develop more challenging test items for the higher level courses, i.e., BNCOOC/OBC at one level and ANCOOC/OAC at a higher level. You can do this for many tasks, particularly those that require computing and determining eligibility. For some tasks, of course, you cannot gear the difficulty level up or down. But, whenever you can, you should try to do so. This rule directly applies to those ENCOOC, ANCOOC, OBC, OAC, and functional courses which presently use the same test/PE.

10. Write the stem as a question, rather than as a completion statement. The simply worded direct question helps students recognize what you expect.

EXAMPLE

The statement, "The transaction prepared correctly is..." is not as precise as the question, "Which transaction is prepared correctly?"

11. Word the stem so it will not give away the correct response. Especially avoid using synonyms for the correct response in the stem.

EXAMPLE

Refer to Figure 6-2. (Assume Figure 6-2 illustrates a soldier's DA Form 2A.) What nine-place Primary MOS code should you enter in Part I (Administrative Data), block e (PMOS), of the NCO Evaluation Report?

1. 11B3
2. 11B30
3. 11B30P5

4. 11B3000P5

5. 11B30P500

Note that asking "What nine-place Primary MOS" automatically disqualifies alternatives 1, 2, and 3 as correct choices. Delete "nine-place" from the stem to make this item acceptable.

12. Avoid negative questions. Try to write all items using positive wording. When students suddenly encounter a negatively phrased item, they must completely readjust their pattern of thought. Then when students get to the next positively phrased item, they must readjust again. Innovative test writers can almost always avoid negative questions. If you cannot avoid a negative question, underline or CAPITALIZE the negative element. If the word NOT appears in the stem of an item, do not use another negative word in any of the alternatives.

13. When developing stems, avoid:

a. "would" and "will." Use "should" instead.

EXAMPLE

What will you enter in Block H (Period Covered) of the DA Form 2166-7?

	FROM	THRU
1.	9309	9408
2.	9309	9409
3.	9310	9409
4.	9310	9410

Logically speaking (to absurdity, we admit), any of the above choices could be defended as the correct choice.

b. Words such as "almost," "most," "few," "great," and "large." They mean different things to different people.

c. Absolutes such as "all," "always," "every," "entirely," and "never."

14. Use the same words and word order when you write the same kind of question. Assume a question reads, "How many promotion points should SGT Knox receive for Civilian Education?" The following examples, one bad and one good, show how the second question might read:

INCORRECT WORD ORDER CORRECT WORD ORDER

How many promotion points for
Military Training should SGT
Knox receive?

How many promotion points
should SGT Knox receive
for Military Training?

NOTE: The wording of the "incorrect word order" question is acceptable. But if you word one question this way, then use this same wording for all of the same kind of questions.

15. List all information that pertains to all alternatives in the stem of the item.

EXAMPLE

How many promotion points should SPC Glover receive for Military Education?

Incorrect

Correct

1. 50 promotion points

1. 50

2. 75 promotion points

2. 75

3. 100 promotion points

3. 100

16. Include a minimum of two and a maximum of five plausible (realistic) answer choices with only one clearly correct answer for each question. We recommend four or five answer choices whenever possible. NOTE: Two answer choices are acceptable only when the actual performance involves a choice between two alternatives (e.g., turn-on switch, turn-off switch).

17. Construct responses which are alike in nature and closely related to the item stem.

EXAMPLE

What type of correspondence should you prepare to respond to Congressman Spendar?

Incorrect

1. Letter
2. Official
3. Endorsement
4. Formal Memorandum
5. Informal Memorandum

Correct

1. Letter
2. Endorsement
3. Formal Memorandum
4. Informal Memorandum
5. Memorandum of Understanding

NOTE: "Official" doesn't fit the item stem as it's NOT a type of correspondence.

18. Try to make all alternatives approximately the same length. If answer lengths must vary, avoid making the correct response consistently longer or shorter than the distractors. Generally, correct alternatives are longer than incorrect ones and test-wise students will guess the longer ones. (This guideline applies to knowledge tests.)

19. Try to avoid using "All of the above" as a choice. This response forces students to rethink each alternative. If you use "All of the above" you should make it the last answer choice of the test item and you should offer it as both correct and incorrect alternatives. When you use this response, place "(ONLY)" after the other answer choices.

EXAMPLE

Refer to Figure 2-1. (NOTE: Assume Figure 2-1 is a memorandum, subject: Recommendation for Elimination from the Service, with enclosures.) Which required document (s) is (are) missing from the elimination action?

1. Court Martial Order (ONLY)
2. Mental Status Evaluation (ONLY)
3. Report of Physical Examination (ONLY)
4. Court Martial Order and Mental Status Evaluation (ONLY)
5. All of the above

20. Qualify responses which overlap or include one another.

EXAMPLE

Does PFC Martin Berry meet the mental qualifications for appointment?

1. Yes
2. No; he does not meet the GT score
3. No; he does not meet the FAST score
4. No; he does not meet either the FAST or the GT score

Note that alternatives 2 and 3 overlap alternative 4. Add "(ONLY)" as the last word in alternatives 2 and 3 to make this item acceptable.

21. You must list a correct response to each question.
Do NOT use "None of the above" as an answer choice.

EXAMPLE

SFC George Bond's retirement pay will be \$1200 per month.
He elects full coverage under the Survivor's Benefit Plan
(SBP) for his wife. To what amount of SBP annuity is SFC
Bond's wife entitled?

1. \$600
2. \$1200
3. None of the above

If students select 3 (the correct choice), what does this mean?
Does the student know what the correct amount of annuity is?
All it indicates is that the student knows that \$600 and \$1200
are not the correct amounts. You should replace alternative 3
with the correct amount and sequence the alternatives as follows:

1. \$600
2. \$660
3. \$1200

22. Ensure that answer placement is randomly distributed
within the test (e.g., not in any set pattern and no more than
two consecutive questions having the same answer placement).
However, don't violate the rules in paragraphs 8, 23, 24, 25, and
26 to satisfy this requirement.

23. Normally, you should arrange answer choices according to length with the shortest choice first.

a. When the answer choices follow a logical sequence, then list the choices in that sequence. A question worded as "Which required document, if any, is missing from the elimination action?" should have "none" as the last alternative even though it is the shortest answer choice. "None" belongs last because the student must first consider all other alternatives before considering the "none" choice.

b. List positive alternates before negative alternatives.

c. When answer alternatives are a series of codes, titles, etc., addressed in a regulation, arrange the alternatives using the same sequence used in the regulation. In essence, arrange alternatives so that a test taker doesn't have to read the same regulation text twice to determine the answer.

EXAMPLE OF LOGICAL SEQUENCE ORDER

Refer to Figure 2-1. (NOTE: Assume Figure 2-1 is a completed application for appointment as a Warrant Officer.) Which additional document, if any, is required as an enclosure?

1. College transcript
2. Request for waiver of age
3. SF 88 (Report of Medical Examination)
4. Copy of DA Form 2-1 (Personnel Qualification Record-Part II)
5. None

 ANOTHER EXAMPLE OF LOGICAL SEQUENCE ORDER

A question worded as "What is the highest decoration SFC Blount is eligible to receive?" should have the decorations listed in a highest to lowest or lowest to highest sequence without regard to the length of each alternative.

Incorrect sequence	Correct sequence
1. Bronze Star Medal	1. Bronze Star Medal
2. Silver Star	2. Legion of Merit
3. Legion of Merit	3. Silver Star

 24. If a word, abbreviation, acronym, or numerical sequence exists in the responses, repeat the same sequence in all alternatives.

 EXAMPLE

Refer to Figures 4-1 and 4-2. [NOTE: Assume Figure 4-1 illustrates item 9 (Awards, Decorations, and Campaigns) of the DA Form 2-1 and Figure 4-2 illustrates item 12 of the DA Form 638.] What awards should be entered in item 12 of the DA Form 638?

Incorrect sequence	Correct sequence
1. ARCM-1, SM (ONLY)	1. SM, ARCM-1 (ONLY)
2. GCMDL-Army (4th Awd), SM, ARCM-1 (ONLY)	2. SM, ARCM-1, GCMDL-Army (4th Awd) (ONLY)
3. CIB, ARCM-1, GCMDL-Army (4th Awd), SM (ONLY)	3. SM, ARCM-1, GCMDL-Army (4th Awd), CIB (ONLY)
4. GCMDL-Army (4th Awd), ARCM-1, SM, PRCHT-BAD, CIB	4. SM, ARCM-1, GCMDL-Army (4th Awd), CIB, PRCHT-BAD

25. If a numerical sequence exists in the responses, list the numbers in order from small to large.

26. If a date sequence exists, place the dates in chronological order with the earliest date first. This helps the student to progress logically from date to date and avoids the disjointed thought process fostered by unsequenced dates.

EXAMPLE

1. 981203 2. 990612 3. 990613

27. Distractors (wrong choices):

a. Are key elements of a good test question. It is self-defeating to design a good test question with unbelievable distractors. You should regularly review distractors based on feedback received during test critiques and item analysis data and modify them, as required.

b. Should appear plausible (realistic) and attractive to students who do not know the correct response.

c. Should be errors that are commonly made.

d. Should normally have only one error.

EXAMPLE

Today is 1 Nov 99. *SPC Mabel Bunch enlisted on 2 Oct 99. She has 2 years, 11 months, and 6 days prior active Federal service and 3 months and 10 days prior reserve service. What is SPC Bunch's PEBD?

*Illustrate this information by a DD Form 4/1, DD Form 214, or some other source document in a test or practical exercise.

POOR DISTRACTORS

BETTER DISTRACTORS

- 1. 950716
- 2. 960716
- 3. 970716
- 4. 980716
- 5. 990716

- 1. 960715
- 2. 960716
- 3. 960717
- 4. 961026
- 5. 990622

The "poor" distractors show errors in the year only. Thus students would unlikely obtain the dates in Alt 1, 3, 4, and 5. Plus there are several computation rules students don't have to use to obtain the correct response (Alt 2). The "better" distractors have dates which can be obtained by students who do not use the correct periods of service and/or do not apply the correct service computation rules. NOTE: These distractors may not be the best ones. For example, if soldiers incorrectly perform computations of service by subtracting from today's date (1 Nov 99), then you should develop distractors based on that date.

28. Each item should be simply worded, direct and free of ambiguity (words or phrases with two or more meanings). If you have to explain/define any word in the item, don't use it. State each item in the working language of the student and the job.

29. Do NOT use (as distractors) technical terms beyond the students' understanding.

30. Use the same terminology throughout the test/PE. For example, don't refer to "DA Form 201" one time and "MPRJ" the next time. Call it one or the other throughout the test/PE. Also, use the same verbiage on both the test and the PE.

31. Use neutral language. For example, refer to SGT Mary Brown as "she," refer to SGT John Brown as "he;" but refer to SGT Brown as "soldier" or by some neutral word.

32. Ensure there is a balanced representation of gender, race, and ethnic groups for each test.

33. Use active voice.

Passive. The SIDPERS Active Army Locator File transaction to be reviewed is shown in Figure 2-1. (15 words)

Active. Review the SIDPERS Active Army Locator File transaction at Figure 2-1. (11 words)

34. Follow standard rules of punctuation, capitalization, and grammar when you develop the stem, answer choices (alternatives), and student instructions.

35. Use dates three or four years in the future for "today's date" and on illustrations/documents. Using dates several years in the future eliminates updating tests/PEs for the sole reason of complying with this requirement.

36. Avoid using in test items and source documents recognizable names; e. g., movie stars, presidents, professional athletes, school instructors; and names that could be interpreted to have racial or sexual overtones or double meanings.

37. When space permits, leave a blank line after the stem and between each alternative.

38. Design a test that is easy to use. Related situations, questions, alternatives, and illustrations should appear on the same or facing pages when practicable. (Flipping back and forth in the test booklet is minimized.)

APPENDIX K

FACE VALIDITY CHECK

We have constructed a test to measure a student's ability to complete a certain objective (or objectives). We are about ready to try this test out on several people to see if it does that job. Before we do though, we would like you to review the test. As a master in this task, your opinion of the test is important to us.

Please use this worksheet as you go through the test.

I. Complete the following:

Name _____

Rank _____

Unit _____

Task Proficiency

Task Title _____

How well can you do this task? (Circle one)

- 0 Cannot do it
- 1 Not very well
- 2 Fairly well
- 3 Very well

Briefly describe the extent of experience you have had doing this task.
(Include how often you have done this task in the last 6 months.)

II. Review the objective(s) provided.

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III. Take the test. Please comment, as appropriate, on the categories listed below. Be as specific as you can. The categories are listed as guides only. Do not be bound to them.

Instructions

Clarity of Test Questions

Accuracy of Content

Adequacy of Given Materials

Methods of Responding

Your Personal Reaction

How would you improve the test?

IV. Look again at the objective. As a master in this task, would you accept the results of the test (as is) as evidence that someone could or could not do this task? If no, explain.

APPENDIX L

STUDENT INSTRUCTION, TEST ADMINISTRATION INSTRUCTIONS, AND
SCORING INSTRUCTIONS

Providing students, instructors, test administrators, and test scorers with clear, concise instruments and procedures is vital. This appendix addresses two separate documents: the test booklet and the test administration and scoring guide.

TEST BOOKLET

The test booklet must contain student instructions, the test itself, and, if appropriate, the test answer sheet. Because test answer sheets are consumable items, it is often advisable to keep them separate from the test booklets so that students may reuse the booklets. When a test uses the AIMS Answer Sheet, that sheet will always be separate from the printed test booklet.

STUDENT INSTRUCTIONS.

Every test requires certain instructions to the students who are taking the test. These student instructions must include the following information:

- o Objective. This reflects the ACTION portion of the TLO, as shown below.
- o Materials. This reflects the CONDITIONS portion of the TLO, as shown below.

EXAMPLE*

<u>TLO</u>	<u>TEST INSTRUCTIONS</u>
<p>CONDITIONS: Given AR 37-104-3, military pay and tax tables, completed DA Forms 2139 and a JACS terminal.</p> <p>ACTIONS: The student will review DA Forms 2139 to determine type of payment, verify that payments are assembled by DOV number, assign a TCN to each action, assign and enter input using JACS terminal.</p> <p>STANDARD: IAW AR 37-104-3 and JACS Manual.</p>	<p>OBJECTIVE: This test is designed to measure your ability to input casual and advance payments into the JACS system. You will review DA Forms 2139 to determine the type of payment, ensure payments are assembled by DOV number, TCNs to each action, and use the JACS terminal for the input.</p> <p>MATERIALS: AR 37-104-3, military pay and tax tables, completed DA Forms 2139 and a JACS terminal.</p>

*Although the TLO lists the conditions first, the test instructions state the objective action first and then the required materials.

NOTE: You should not include test standards in the booklet. The test standards must appear on the Course Grading Plan, which the student receives. The standards often change as you refine a new/revised test over a few administrations. When standards change for any reason, it is easier and less costly to change only the Course Grading Plan than to reprint or annotate numerous test booklets.

- o Time. This is a statement of the time limit for the test.

NOTE: The following is a recommended approach for establishing the time limit for a test: Have 10 students take the test. If the completion times of all students are reasonably close, use the time of the slowest student. If the times vary greatly, set a time limit that would allow 80 percent of the students to finish.

- o General Information. This contains warnings to students to do their own work, not communicate with other students, etc.

- o Test Directions. This contains explanations of test format, sequence of activity, where to record answers, where to record name and identification information, and what students should do after completing the test.

NOTE: See Appendix M for further details.

TEST ADMINISTRATION AND SCORING GUIDE

Includes the following as applicable:

- o Administration Instructions
- o Scoring Instructions
- o Solution Key and/or Evaluation Checklist

1. ADMINISTRATION INSTRUCTIONS. This is information provided to the test administrator. For answer-scored tests and product-scored performance tests (during which entire classes or large groups of students test simultaneously) you may simply refer the administrator to the "General Test Administration Procedures" specified in Appendix of SSI Regulation 350-22, Resident Student Measurement. However, for observer scored performance tests (during which the administrator must observe student performance and score that performance while it is taking place), you may need to prepare more extensive administration instructions. The following are elements you should consider for inclusion:

- o Preparation. Provide the administrator with any special instructions for setting up the test site or test facility for this particular test (placement of equipment/materials, seating arrangement for role-playing situations, etc).

- Verbal instructions to students. Instruct the administrator to provide the students with information covered in the "STUDENT INSTRUCTIONS" section of the appendix (page L-1).
- Questions. This item should direct the administrator to tell the students that he/she is not authorized to help with the test in any way. The administrator should inform the students that if there are any questions of an administrative nature, the students should ask for clarification before the test begins.
- Administration. This item should direct the administrator to administer the test. It should include any special instructions relating to the administration of this particular test (safety precautions, use of equipment, security precautions, etc.).

NOTE: When applicable, this item should provide instructions for recording start/finish times.

- Follow-up. This item should identify any activities that the administrator is to take after the students have completed the test. This would include any record-keeping duties that are needed prior to scoring the test.

2. SCORING INSTRUCTIONS. This is information provided to the person scoring the test. For any test that is not machine scorable, you must prepare detailed instructions to allow for fair and consistent "manual" scoring.

- Score Sheets. Product-scored performance tests, observer-scored performance tests and even some knowledge tests that require written student responses (short answer, essay, etc.) require the preparation of a score sheet. The score sheet should list each element (product characteristic or performance step) for assessment on a GO/NO GO basis. Personnel should design score sheets so that the scorer need mark only when there is an error. Your scoring instructions should provide specific guidance to the scorer concerning what constitutes a "GO" for each element being assessed. The instructions should identify "acceptable variations" in student performance and, when appropriate, "unacceptable" performance for each element.

NOTE: If scoring instructions are complex and/or lengthy, they may have to appear in a separate document (often called an evaluation checklist) rather than on the score sheet itself. See paragraph 3, below.

- Recording Errors. Tell the scorer how to record errors (e.g., circle errors on the product, mark errors on the score sheet, etc.).

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- o Standards. Identify for the scorer the overall criterion for passing the test.
- o Processing Test Results. This item should indicate where the scorer is to record the scores (on the product, on the score sheet, on the Grade Processing Form, etc.). Refer the scorer to SSI Reg 350-22 for additional information on processing test results.

3. SOLUTION KEY AND/OR EVALUATION CHECKLIST. Tests designed for manual scoring often require the preparation of a solution key (reflecting the "school solution" to the test) or a checklist outlining the criteria used to assess student responses. Your instructions to the test scorer should refer to these documents, as appropriate, in explaining how to score the test.

APPENDIX M

TEST REVIEW CHECKLIST

Indicate whether or not the test meets the following criteria by placing a check mark under Yes or No.

A. DO THE TEST BOOKLET'S STUDENT INSTRUCTIONS INCLUDE:

	Yes	No	Comments
1. An objective statement restating the action portion of the Terminal Learning Objective (TLO) in student language?			
2. A list of materials required for test completion identical to the conditions of the TLO? (Items included in the test booklet are not listed.)			
3. A statement of the time limit for taking the test?			
4. A statement of general information related to warnings and directives.			
5. A statement of test directions which explain how the student is to proceed through the test? Specifically covered here are: <ul style="list-style-type: none"> a. The test format. b. The sequence of activities. c. Where to record answers. d. Where to record identification information. e. What the student should do upon completion of the exam. 			

B. DOES THE TEST REFLECT:

1. Student directions, questions and examples that are clearly written at the appropriate reading level for the target audience?
2. Situational information at the beginning of the test which applies to the entire test and specific guidance interspersed at appropriate spots throughout the test which addresses individual test questions or groups of questions?
3. Only behavior supported by TLO actions?
4. Realistic test standards?
5. Coverage of the TOTAL TLO and its ELOs?
6. An adequate number of test items to ensure validity?
7. Parallel format in all versions?

Yes	No	Comments

C. DO THE TEST SUBMISSION DOCUMENTS INCLUDE:

1. A completed Product Review/Control Sheet (PR/CS)?
2. All TLOs (with their PR/CS showing their previous approval), each annotated with the test item numbers that support it?
3. Any handouts, charts, forms, etc., which are listed in the TLO CONDITIONS/test materials that would facilitate the test review process?
4. A Test Administration and Scoring Guide (See Appendix L for details) which includes (if applicable):
 - a. Preparation - instructions that describe "set up" procedures and requirements?
 - b. Verbal instructions - instructions to students (also covered in points A 1-5 of this checklist)?

	Yes	No	Comments
<p>c. Questions - period allotted for student questions?</p>			
<p>d. Administration - directions for administering the test (if special)?</p>			
<p>e. Follow-up - Instructions on actions which should be taken after the students have completed the test?</p>			
<p>f. An appropriate score sheet, solution key, and/or evaluation checklist? (With instructions for scoring)?</p>			
<p>5. Validation documentation (in the form of face validity checks)?</p>			

APPENDIX N

Task Number _____ Time Started _____

Test Version _____ Time Completed _____

TEST CRITIQUE SHEET

Name _____

We have designed this questionnaire to elicit your comments on the test you have just completed.

1. Would you rate the realism of this test as: (Check one)

High _____ Medium _____ Low _____

If you rated the realism of the test as medium or low, please indicate why. Try to be as specific as possible. For each different reason you identify, indicate how you think we might increase the realism.

2. Were test instructions clear? YES _____ NO _____

If your answer is "NO," please indicate the reasons why the instructions were confusing to you.

3. Were the test questions clear? YES _____ NO _____

If not, explain.

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4. Which questions posed problems? Indicate problems.

5. Which questions would you change? _____

Why would you change the questions?

How would you change the questions?

6. Other suggestions or comments.

APPENDIX O

PRODUCT REVIEW/CONTROL SHEET

Proponent School: _____ Course(s): _____
 Task Title/Number or Subject: _____ POI File #(s): _____
 Product Type: _____
 Preparer: _____ Phone No.: _____
 Date Submitted to Proponent QC: _____ Date Submitted to DOTS: _____
 Approximate Implementation Date of Product: _____

Signature of Course Director(s) for Course(s) shown above.	
_____	_____
Name/Course	Name/Course
_____	_____
Name/Course	Name/Course

PROPONENT QC REVIEW	DATE	DOTS REVIEW (A1SG-TS1-R)	DATE	SIGNATURE OF APPROVAL AUTHORITY	DATE

THE FOLLOWING BLOCKS TO BE COMPLETED BY DOTS (FOR TESTS ONLY).

TITLE	SHORT TITLE	TEST CODE	MEETS AIMS RQMTS

NOTE:

- One Product Review/Control Sheet must be prepared for each product submitted.
- This sheet will accompany title product throughout the development process
- School Directors will retain this sheet as part of their audit trail.
- Products will not be accepted for official review by DOTS without previous approval of the proponent's QC personnel. All improvements suggested by them should be made by the preparer prior to submitting product to DOTS.

APPENDIX P

 USASSI COURSE GRADING PLAN	COURSE:		DATE:				
	CODE:	EFFECTIVE DATE:	CLASS NO.				
TYPE OF EVALUATION AND SUBJECTS/TASKS COVERED:							
TEST NUMBER	TEST TITLE	EVENT NUMBER	FTLR CODE	MAX/ RAW	PASS/ FAIL	EXAM WEIGHT	METHOD OF SCORING
<u>GRADUATION REQUIREMENTS</u>							
COURSE DIRECTOR:		PHONE:	TEST COORDINATOR:		DATE:		
METHOD OF SCORING: 1-Instructor A-AIMS Answer Sheet 3-Student G-Grade Processing Form		DIRECTOR OF TRAINING SUPPORT			DATE:		

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APPENDIX P

 USASSI COURSE GRADING PLAN	COURSE:		DATE:				
	CODE:	EFFECTIVE DATE:	CLASS NO.				
TYPE OF EVALUATION AND SUBJECTS/TASKS COVERED:							
TEST NUMBER	TEST TITLE	EVENT NUMBER	FILE CODE	MAX/RAW	PASS/FAIL	EXAM WEIGHT	METHOD OF SCORING
Empty space for test details							

APPENDIX Q

LIST OF LEARNING ACTIVITIES

COURSE/SL TRAINING: _____ DATE: _____

LEARNING OBJECTIVE: _____ DESIGNER: _____

LEARNING CATEGORY/SUBCATEGORY: _____

LEARNING GUIDELINE NUMBER	LEARNING GUIDELINE	SPECIFIC LEARNING ACTIVITY

APPENDIX R

CHECKLIST FOR DESCRIBING THE LEARNING ENVIRONMENT

COURSE/SL TRAINING:

DATE:

TRAINING SITE:

DESIGNER:

Consider the target population and the course/SL of the training the school will conduct, answer the following questions:

1. What space is available for conducting initial learning by means of conferences, lectures, video tapes, self-paced work, etc.? (Classrooms, learning centers, etc.)

2. What space is available for practice? (It may be the same space the school uses for conducting the instruction. It may also be areas such as day rooms, offices, libraries, and other similar areas.)

3. What training aids are available at this location?

4. What equipment, supplies, and references are available for students to use during practice, if appropriate? (Typewriters, adding machines, calculators, computer terminals, forms, scales, regulations, pamphlets, etc.)

5. What equipment, supplies, and references could the school obtain if needed?

6. Is this location convenient in terms of the time it will take students to get to it?

APPENDIX S

INSTRUCTIONAL PLANNING WORKSHEET

COURSE: _____ DATE: _____
TASK NO. AND TITLE: _____ DESIGNER: _____
LEARNING OBJECTIVE: _____ MODE: _____

LEARNING ACTIVITIES (in recommended sequence)	DURATION	SUPPORT MATERIALS AND GUIDANCE (Method/Media/Equipment/ Instructional Guidance)

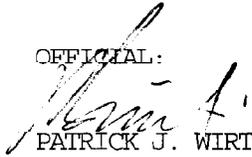
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FOR THE COMMANDER:

OFFICIAL:


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Director, Training Support

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