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Research Product 81-15

A JOB AID FOR THE SYSTEMATIC
EVALUATION OF LESSON PLANS

ARI FIELD UNIT AT FORT KNOX, KENTUCKY

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A JOB AID FOR THE SYSTEMATIC
EVALUATION OF LESSON PLANS

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FOREWORD

Guidance for training development is provided in US Army Training and Doctrine Command (TRADOC) Pamphlet 350-30, Interservice Procedures for Instructional Systems Development (ISD), August 1975. Some of the training being developed and conducted does not follow this guidance, however, because many of the training developers and deliverers have not been trained in the development of a training process; they are subject matter experts who are detailed to training development. Training is typically developed under a concern for what is being trained. How that training is developed, conducted, and evaluated is usually given less attention. Because training is seldom subjected to formal evaluation, ineffective training may go uncorrected. US Army Research Institute Fort Knox Field Unit has developed a system for formally evaluating the training process. Its use should measurably upgrade training development, conduct, and evaluation in the Army.

Training Program Evaluation (TPE) is a system for evaluating the effectiveness and efficiency of a training program. It incorporates the decision rules, data collection formats, and analysis procedures for evaluating the soundness of a training plan as expressed in lesson plans and training materials, evaluating the training and testing process, identifying training and non-training causes of poor soldier performance in training, and for recommending modifications to training and testing that have a high probability of eliminating poor soldier performance in training.

This job aid, one of four in the system, addresses the problem of evaluating lesson plans with regard to the adequacy of the training prescriptions (descriptions of the training events/learning experiences) contained in these plans. Guidance is provided for evaluating training objectives, training process plans (plans for lectures, demonstrations, and practice events), and testing plans and instruments. This job aid is useful to Army personnel in centers, schools, and operating units for evaluating training programs.


JOSEPH ZEIDNER
Technical Director



BRIEF

REQUIREMENT

The Army does not have a standard set of procedures for evaluating the effectiveness and efficiency of training programs. A need for such standardized formal procedures was identified by the Army Training Study in 1978. Guidance from the Army Training Study specified the development of procedural guides that would not require an analyst sophisticated in educational technology, would be applicable to established and developing weapon systems, and could be used in institutional, transition, and sustainment environments.

PROCEDURE

Training Program Evaluation (TPE) was designed as a system for evaluating the effectiveness and efficiency of a training program. Decision rules, data collection formats, and analysis procedures for evaluating the soundness of a training plan as expressed in lesson plans and training materials, evaluating the training and testing process, identifying training and non-training courses of poor soldier performance in training, and for recommending modifications to training and testing that have a high probability of eliminating poor soldier performance in training were incorporated out of the civilian and military literature, industrial practice, and the experience of the research team.

Observable elements of the training process were specified. These elements, or items, included such things as whether or not everyone practiced the training task to standard, if the training aids specified by the lesson plan were used, whether or not tasks were demonstrated, if testing was contaminated by unwarranted prompting, etc. These items were formatted into a worksheet and given several field trials with typical users. The major field trial was conducted in conjunction with the M1 tank OT-III.

Following the series of field trials, lessons learned were compiled and the items, guidance, and suggested worksheet formats were finalized. Suggested program modifications were devised to correct any problems found. This was done separately for each related set of observable items. Program modifications are indexed, therefore, to problems observed in the training itself or training plans/materials. Because of the importance of training objectives, practice, and feedback to training effectiveness, separate sections on these topics were developed using training literature, experience, and lessons learned as guidance.

There are four job aids in the series; one for modifying ineffective or inefficient training programs, one for systematically observing training and testing, one for use by the training analyst to guide him or her through the entire process, and this job aid.

FINDINGS

The TPE system has been used in several operational training program evaluations and has provided training process data not heretofore available. Users have found these data useful for "fixing" training problems.

UTILIZATION

Preliminary versions of the TPE materials have been provided to the Armor Center and School, the Armor and Engineer Board, and the Office of Armor Force Management and Standardization (OAFMS) at Fort Knox, the Soldier Support Center at Fort Benjamin Harrison, the Artillery School at Fort Sill, the Ordnance Center at Aberdeen Proving Ground, the Infantry School at Fort Benning, the US Army Training and Doctrine Command (TRADOC) Deputy Chief of Staff for Training, TRADOC Training Development Institute, and the National Defense Headquarters at Ottawa, Canada. Final versions have been requested. In addition, the system has been implemented, all or in part, at Fort Hood where the TRADOC Combined Arms Test Activity, TRADOC Systems Analysis Activity, the Armor Center, and OAFMS used it to evaluate the New Equipment Training for the M1 tank, at Fort Knox where it has been used to evaluate the Advanced NCO course, M1 Tank Basic Armor Training, M60A3 Basic Armor Training, and at Fort Bliss where it has been used as a baseline for a system for evaluating the NET programs accompanying Air Defense Developing weapon systems.

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SECTION I

PREFACE

Each job in the Army is composed of a set of duties. These duties are, in turn, composed of performance tasks. Every soldier in the Army is responsible for being proficient on a set of tasks, usually compiled into a Soldiers Manual. To insure soldier proficiency, the Army trains each soldier on each task.

The US Army Training and Doctrine Command (TRADOC) has provided guidance for training development in TRADOC Pamphlet 350-30, Interservice Procedures for Instructional Systems Development (ISD), August 1975. Some of the training being developed and conducted does not follow this guidance, however, because many of the training developers and deliverers have not been trained in the development of a training process; they are subject matter experts who are detailed to training development. Training is typically developed under a concern for what is being trained. How that training is developed, conducted, and evaluated is usually given less attention. Because training is seldom subjected to formal evaluation, bad training may go uncorrected. This job aid and the other three job aids in this set (listed below) provide techniques for formally evaluating the training process. Their use should measurably upgrade training development, conduct, and evaluation in the Army.

The set of four job aids addresses the evaluation of training materials, training observation, how to correct training problems discovered during evaluation, and how to use training observation and test data to analyze the efficiency and effectiveness of training programs. These four job aids are:

Research Product 81-15, A Job Aid for the Systematic Evaluation of Lesson Plans, which will help you evaluate lesson plans for adherence to sound training development principles.

Research Product 81-16, A Job Aid for the Structured Observation of Training, which will help you and/or the training observer see and record useful data for evaluating training programs.

Research Product 81-17, A Job Aid for Modifying Ineffective or Inefficient Training Programs, which will help you decide what training modifications should be made to correct training problems discovered during a Training Program Evaluation (TPE).

Research Product 81-18, Guidelines for Conducting a Training Program Evaluation (TPE), which will help you decide if there were performance deficiencies on in-course tests, the likelihood of these performance deficiencies being caused by training, what is probably wrong with the training program, and what modifications are called for by the analysis.

This job aid, then, addresses the problem of how to evaluate lesson plans for adherence to sound training development principles. The job aid provides guidance that enables you to systematically examine lesson plans and identify those areas in which a given lesson plan is deficient. It allows you to recognize and correct many training and testing problems in a program of instruction before any instruction has been presented.

SECTION II

INTRODUCTION

Well before the training program ever begins, the training developers will have designed lesson plans describing the training program and how it will be conducted. This provides an opportunity for the training analyst to conduct a preliminary evaluation of the training program by examining the lesson plans associated with that program. This evaluation may be performed in conjunction with the examination of the lesson plans for the completion of Worksheet 1 (see Research Product 81-16).

There are three major questions that can be investigated at this point.

1. Are the goals (training objectives) of the training program clearly specified? If the goals are not clearly specified, the training designer does not know what skills and knowledges the lesson is supposed to produce in the soldiers. Learning experiences cannot be developed because the designer does not know exactly what skills and knowledges the soldiers must learn. "What" is taught is an instructor specific decision. There is no guarantee of stability in the program from time 1 to time 2 for any given instructor nor from instructor 1 to instructor 2 at any given time.
2. Does the training design (lesson plans) specify a sequence of events that have been shown to lead to goal attainment? The training design (lesson plan) must specify the nature and sequence of the learning events. These events must provide the soldiers with the skills and knowledges they need to perform the TASKS in the training objectives to the required STANDARD under the training CONDITIONS. The lesson plan should have been piloted against typical input to ensure that the events do, in fact, achieve the training objective. If the first try did not work, the lesson plan should have been modified and piloted again. This process needs to be repeated until it has been demonstrated that the training design does work. If this has not been done, then there is no guarantee that the training program will achieve the training objectives even if it is faithfully implemented. It probably will not work which will cause instructors to abandon the lesson plan and give instructor specific training.
3. Do the lesson plans provide for testing the soldiers to determine if they can meet the goals of the training program as specified in the training objectives? To ensure that the goals of the training program are met, the training plan should include a test that measures each soldier's ability to perform as described in the training objectives. The lesson plan should include instructions to the examiner on administering the test, test instructions to be read to the soldier, score sheets for each task to be tested, and scoring instructions for the examiner including test conditions and standards. The lesson plans should also provide procedures to be followed when a soldier receives a NO-GO on the test.

If training managers do not know what it is they are trying to do (training objectives not clear) and they do not know if what they are planning to do about it (training program - lesson plans) will get them to where they want to

be (soldier performance to standard on the objectives), then there is not much sense in spending resources to observe training and testing to see if the program has worked. Effort, at this point, needs to be put into goal clarification and training design.

This job aid contains twenty-one questions that should be answered affirmatively in examining a lesson plan. If any question is not answered in the affirmative, action is needed to change either the objectives, training plan, or test, whichever is appropriate. The narrative following each question discusses the nature of the problem. The changes needed are, of course, those which will cause the questions to be answered "yes."

It is not the intent of this job aid to make you an educational technologist. The proper action for you to take when you find "no" answers to these questions is to refer the problem back to the training developer. The training developer may not agree with you. Remember that your job is to identify problems and recommend solutions, not to force compliance with your position. Whatever "leverage" you have will come from the logic of your data and the backing you get from higher headquarters.

SECTION III

EVALUATING TRAINING OBJECTIVES

1. Does the training objective specify what the soldier must do after having been trained?

A well written training objective is the heart of a training program (see Section II, Research Product 81-17). It tells the instructor, soldier, and the training manager three very important things: what it is that the soldier will be able to do after training that he or she could not do before training (the TASK), the conditions under which the soldier will be able to do it including what the soldier will have available to help with the performance (the CONDITION), and how well the soldier must perform to get a GO (the STANDARD).

The focus, in the TASK statement, is on the word "DO." Action verbs are required to describe what soldiers do. Soldiers can repair things when they are broken, they can replace things when they do not work any more, they can disassemble things that are already put together, they can assemble things that have been taken apart, they can name things when they are pointed to, they can describe what they would do when something goes wrong. It is best to avoid more general terms like hit targets, be oriented, to become familiar with, and take appropriate action, because they are not specific enough to adequately describe the task to be accomplished.

The TASK statement provides the basis for the training design; what it is the soldiers will "DO" in training that will build the skills necessary to perform the TASK. If the TASK statement does not clearly specify what it is that the soldier must "DO" after training, there is no way for training to be designed since there is no goal to reach. Instructors are left to define the TASK for themselves, as best they can out of their experience. As a consequence, training may become highly instructor dependent with each instructor conducting his or her own training program. "What" gets trained varies from instructor to instructor. There is no stable training program. In the end, what gets evaluated is a collection of divergent training programs. As this collection shifts with changes in instructor personnel, the results shift. The specific proficiencies you get today may not be the same proficiencies you get next time. This general argument does not just apply to the statement of the task. It also applies to the specification of learning activities in the lesson plan.

The point here is that before you can evaluate anything you have to be able to describe it and be reasonably sure that "it" will remain stable during the evaluation period.

2. Is it clearly a training objective (and not a job requirement)?

Training objectives are derived from job requirements during the design and development of a training program. The two are usually different since soldiers are usually less proficient in training, are performing under different conditions, and often to different standards than would be present on the job. You will have to look at each training objective closely to make sure that it specifies a TASK, CONDITION, and STANDARD that are obtainable in the training environment. It is important that training objectives match job requirements as closely as possible, but within the constraints of the military training situation.

Sometimes these differences are small but they are still important. For example, if the TASK requires the soldier to decontaminate a piece of equipment following a chemical or biological attack but the "real" conditions in the training environment do not permit the soldier to be subjected to such a hazard, the TASK is a job requirement rather than a training objective. The differences between the two in terms of instructor and soldier behavior are very large. In the presence of a hazardous agent there is a much greater sense of urgency, greater stress, greater attention to soldier performance during training, and a much more rigid adherence to STANDARDS. When the hazardous agent is simulated, instructors will usually let slightly substandard performance, or even a verbal description satisfy the requirement. The slightly substandard performance and verbal description will probably not be clearly defined so, as in #1, above, what is learned and how well it is learned will vary from instructor to instructor.

3. Does the training objective specify the CONDITIONS under which the soldier must demonstrate task performance?

The CONDITIONS statement should lay out in detail the environmental conditions under which the soldier will be able to do the TASK and the tools, job aids, etc., that he or she will have available to help with TASK performance (see Section II, Research Product 81-17).

Again, the training CONDITIONS will probably differ from the job CONDITIONS. For example, soldiers cannot perform tasks under NBC conditions in training because nuclear and biological agents cannot be used in a training environment. They may be able to perform under certain chemical conditions, however, if they are clearly specified. If soldiers are to perform under conditions of darkness, then they should be made to perform when it is dark. If, however, "darkness" here means using light attenuating goggles, then the CONDITION should specify light attenuating goggles.

If TASK performance requires the use of a tank, or a rifle, or a wrench, or a manual, or a job aid, then that should be specified and provided to the soldier when he or she is required to perform the TASK.

4. Does the training objective specify the STANDARDS to which soldiers must perform?

The STANDARD lays out in detail how well the soldier must do the TASK to get a GO (see Section II, Research Product 81-17). The STANDARD does not list what the soldier does; it lists the criteria for knowing when it has been done right. It tells the soldier and an outside observer when acceptable performance has been reached.

Standards are usually written in terms of time and/or accuracy. The standard for repairing something is usually expressed in terms of how long it takes and whether it works as it should when repaired. If a soldier has to replace something, he or she usually has a limited amount of time to do it in and all the connections have to be complete and accurate. Disassembly usually involves time and all the right pieces being taken out, perhaps in some specified sequence. The sequence, however, is stated in the TASK, not the STANDARD. When

something is assembled, all the right pieces are usually back in and it works. In all of these, the steps to be performed and the performance sequence are described in the TASK. The STANDARD tells the instructor and soldier how long he or she has to do it in and refers to the TASK for the correct performance steps and sequence.

The STANDARD should be written so as to provide a GO/NO GO criterion for testing.

5. Are the STANDARDS clearly spelled out so that the soldier, the instructor, the examiner, and a training evaluator can tell the difference between performance at or above standard from performance that is below standard?

Standards should be written so that they are interpreted by everyone in the same way. For this to occur, standards must be stated in unambiguous language. Subjective judgments by the examiner generally do not constitute adequate standards and are only slightly better than no standards at all. Standards should be objective measures of performance, stated in terms of speed and/or accuracy. Stating objective standards unambiguously in terms of speed and/or accuracy decreases the chances that the standards will be applied differently by different examiners, and increases the chances that the standards will be understood by the soldiers, the instructor, the examiner, and the evaluator.

6. Are the STANDARDS stated so that acceptable performance is not a judgment call on the part of an instructor (or examiner)?

Some will argue that standards are legitimately judgment calls in certain training areas (strategy, tactics, leadership, etc.). Do not yield to that argument if what you are evaluating is training (developing specific skills and knowledges in soldiers) rather than education (teaching general principles which the soldier may, or may not, apply later). If everyone agrees that the STANDARD is a judgment call, and the individual rules for making the judgment are the same, they can be written down and called a STANDARD. If the individual rules differ, then there is no consistency (or standardization) in the program.

SECTION IV

EVALUATING LESSON PLANS

7. Does the lesson plan call for the dissemination of the required enabling knowledge in either a lecture or a hand-out?

Terms, concepts, or other subject matter that are included in a lesson to enhance the soldier's understanding of the tasks to be learned is referred to as "enabling knowledge." The lesson plan should specify the enabling knowledge needed by the soldiers for task performance. It should specify, as a first event in any sequence of training events, a discussion or lecture where the instructor establishes the terms and concepts needed for him or her and the soldiers to talk about the task.

The lesson plan should specify what enabling knowledge is to be presented and prescribe procedures (a set of rules, a formula to follow, etc.) for presenting it since the soldiers must readily understand the material and be able to converse easily about the task using correct terms and concepts. The lesson plan should specify that training must not progress to a practice event until the instructor is sure that the soldiers understand and can use the appropriate terms and concepts. In general, the lesson should introduce terms and concepts when they are needed for performance rather than introduce them all in a "terms and concepts" event at the beginning of a training module.

The lesson plan should specify the required terms and concepts. These terms and concepts include such things as names or labels for things, introduction of new equipment, explanations of working relationships between parts, the establishment of required readings on gauges and dials, the introduction of rules or strategies, the explanation of underlying concepts, etc.

8. Does the lesson plan call for a demonstration of the task (in its entirety)?

The lesson plan should call for a demonstration of each task, including the appropriate steps or subtasks. The lesson plan should provide guidance to the instructor in conducting the demonstration; it should prescribe how the demonstration is to be conducted. Merely listing the task to be demonstrated, and directing the instructor to demonstrate the necessary maintenance, assembly/disassembly, or operating procedures is not sufficient.

Typically the lesson plan should call for demonstrations to be conducted by the instructor on the actual equipment (or a high fidelity mock-up) in full view of the soldiers being trained. This provides the soldiers with a live model of the skilled performance required, and allows the soldiers to stop the instructor to ask questions. Films, slides, or other pictorial methods are usually less effective methods of demonstrating tasks, and should only be used when time and resources do not permit a live demonstration by the instructor.

In most cases the lesson plan should call for a formal demonstration rather than a walk-through or talk-through. A walk-through or talk-through may be adequate for demonstrating relatively simple tasks where skilled performance

is not required, but it is a poor substitute for a formal demonstration in most applications. Extensive supervised practice following a walk-through or talk-through can sometimes compensate for the lack of a formal demonstration, but in general the lesson plan should provide for a formal demonstration.

9. If there are subtasks in the lesson, are demonstrations required for each subtask and an integrated demonstration required after subtask training?

A subtask is a part of a larger task that can be performed independent of the larger task. If there are subtasks in the lesson, the lesson plan should call for the subtasks to be demonstrated either as part of the overall task or as separate subtasks. When a task consists of a number of related subtasks that are part of a larger overall task, the lesson plan should call for a demonstration of each followed by a demonstration of the full task to include each of the subtasks performed sequentially. The lesson plan should specify the demonstration sequence in considerable detail and show how to schedule demonstrations and practice together.

10. Does the lesson plan call for supervised hands-on practice?

The lesson plan should call for practice of the task where practice is defined as hands-on performance of the task, on the equipment listed in the training objective, supervised by an instructor or assistant instructor, during training. Practice events are essential to skill development. No matter how good lectures, demonstrations, "talk-throughs," or "walk-throughs" are, soldiers will not learn to perform tasks unless they practice them (see Section III, Research Product 81-17).

11. Does the lesson plan require that each subtask and task be practiced?

Both subtask and task practice should be specified in the lesson plan. Subtask practice is practice on a part-task, or on a step in a long sequence, or on a particular set of actions that are part of a task. Subtask practice is necessary when a task is composed of many subtasks (where the sequence of actions is too long and involved for the soldier to master in one practice session). It is more efficient to have the soldier master the sequence by groups of subtasks. After several subtasks have been performed to standard, then the soldier can begin to put them together. The practice event where the soldier attempts to put the subtasks together, to practice the entire task under the training condition to the training standard, is called whole-task practice.

12. Does the lesson plan specify that practice on each subtask/task will be performed by each soldier to a specified standard (or to the standard specified in the training objective)?

The lesson plan should require each soldier to practice each task and subtask until he or she meets the standard listed in the training objective at least once. No soldier should be allowed to progress in training without having satisfied the training objective. Novel or difficult tasks may require more than one demonstration of proficiency by each soldier.

13. Does the lesson plan tell AIs what to look for during practice and how to correct faulty performance?

Progress should be made during practice. As obvious as this point seems, it is often ignored. Progress is crucial, for if it does not occur, the soldier is practicing at least some incorrect performance. Furthermore, because progress should occur, failure to make progress is a good indication that something in the training needs correcting. Judgments as to whether progress is occurring must be made by assistant instructors who are monitoring practice. This means that the lesson plan should tell the assistant instructors what performance problems are likely, how to identify them, how to provide feedback, and what remedial exercises to use to correct faulty performance. For example, the lesson plan should specify those aspects of the tasks that are likely to cause problems for the soldiers, list common soldier errors on the tasks being practiced, and direct the instructor to make feedback regarding soldier errors immediate, specific to the actions performed, and free of ridicule.

The lesson plan must also include a requirement for enough assistant instructors to insure that no practice is conducted without an assistant instructor present. Instructors must be available to provide demonstrations when necessary, point out cues and critical discriminations, provide feedback, and keep the soldier from practicing incorrect actions. Soldiers learn what they practice (see Section III, Research Product 81-17). They learn incorrect actions just as readily as correct actions. Until a soldier is able to perform a task without error, or can recognize and correct his/her own errors, the soldier should practice under the direct supervision of an instructor.

SECTION V

EVALUATING TESTING PLANS AND INSTRUMENTS

14. Do the test items derive directly from the training objectives?

The TASK statements in the training objectives should determine what is trained and what is tested. Consequently, tasks in the training objectives, tasks trained and tasks tested should be the same. If the training objective says that the soldier should "perform" emergency procedures, then the test requirement should not specify that the soldier "simulate" the emergency procedures, or if the objective states that the soldier "perform" troubleshooting in response to a specified malfunction the test should not ask that the soldiers "explain" the troubleshooting procedures for that malfunction.

Tasks that are important enough to be included in the training objectives should be included on the test. When tasks are omitted from the test, the training analyst has less basis for evaluating the effectiveness of the training for those tasks. Furthermore, tasks that are not tested are often de-emphasized during training, thereby reducing training effectiveness for those tasks. Similarly, soldiers should not be tested on tasks that are not included in the statement of the training objective. If this occurs soldiers may be tested on a task for which they were not trained.

15. Does the test require the soldier to perform the steps specified in the training objective?

Following naturally from #14, above, the test should require the performance of the steps or subtasks in the training objective. If a step or subtask is important enough to be singled out and identified in the training objective, it is important enough to test.

Critical decision and/or difficult actions identified in the lesson plan should be part of the test. These are often not included on tests because 1) they are hard to train to standard and instructors often doubt the ability of soldiers to demonstrate proficiency, and 2) they are hard to test. They should be included on the test, however, exactly for these reasons and because the test cannot measure program success and soldier mastery of the training objectives if the critical decisions and/or difficult actions are omitted.

All the critical discriminations included in the training program should also be included in the test. Remember that there are four parts to performing any task; 1) knowing when action is/is not required, 2) knowing which actions (of several) are required in this case, 3) performing the required actions correctly and to standard, and 4) recognizing that actions being performed are correct and to standard. The bases for deciding when action is/is not required or which actions (of several) to take in this case are the critical discriminations. They are often not included on tests because they are hard to set up.

16. Are the conditions specified for the test the same as those specified for the training in the training objective?

The CONDITIONS statement in the training objectives should determine the conditions for both training and testing. Consequently the conditions for training and testing should be the same. All conditions specified in the training objectives should be included in the test, and no new conditions should be added for testing purposes that were not listed in the training objectives. Make sure that the conditions listed in the training objectives and on the test are exactly the same. For example, if the training objective requires the task to be performed under conditions of reduced visibility (which could include smoke, fog, darkness), a test condition requiring performance only under conditions of darkness is not equivalent.

17. Are the standards specified for the test the same as those specified in the training objective?

The STANDARDS listed in the training objectives should determine the standards to be used during the latter stages of practice and on the test. Test standards should be specified in the instructions to the examiner or on the test scoresheets. If the training objective requires that a task be completed in a given amount of time, then the same amount of time to complete the task should be allotted on the test. Similarly, if the objective specifies that the soldier's performance must be within certain accuracy limits, then the test should require the same degree of accuracy from the soldier. If test standards differ from the standards listed in the training objective, you should try to convince the training developer to make the standards consistent. Otherwise, you may have no basis for determining if the soldiers can perform to the standard listed in the training objective.

18. Are the instructions for administering the test such as to ensure standardization across examiners?

The instructions for administering the test should be written so as to ensure standardization of test administration procedures across examiners. The lesson plan should outline precisely how the test is to be administered. Included should be the placement of personnel and equipment and test administration procedures that specify the testing sequence and guide the evaluator in testing the soldiers on each of the tasks to be performed. Such guidance for the evaluator is needed in order to ensure that each soldier is tested in the same way.

19. Does the lesson plan include instructions for the examiner to read to the soldier on how the test will be conducted and scored?

The lesson plan should include instructions to the soldier explaining how the test will be conducted and scored. These instructions should be clear and complete to ensure that testers do not have to add instructions of their own. Test instructions should tell the soldier what he or she will have to do, what cues they will have to know to determine when to start, the conditions they will have to perform under, the equipment/tools they will have and can use, how much time they will have, and the standards for successful completion of the task.

20. Are scoring instructions specific enough (at the step/subtask level) to ensure that correct performance is observable and understandable to both the examiner and the soldier?

Instructions for scoring the test should specify soldier actions that can be seen or, when soldier actions cannot be seen, the results of those actions evidenced by a completed sequence or product. If how a soldier performs a task is important, then the action sequence should be scored. If only the final product of that performance is important and how the soldier gets to that final product is irrelevant, then only the product need be scored.

Scoring instructions should be written simply so that soldiers, as well as examiners, can easily understand them.

21. Does the test plan call for explaining or demonstrating to a soldier what he/she did wrong during the test?

Sometimes it is not at all clear to an individual why he/she is making a mistake in some procedure (aiming and firing a rifle is a good example). The soldier may think that he/she is doing everything correctly, but he/she keeps failing the task. Specific correction is needed in such situations, and sometimes a demonstration of how the soldier is incorrectly performing the task is very useful.

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Training Effectiveness Training Feedback Information Training Development Instructional Design Training Management Human Performance		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This job aid addresses the problem of evaluating lesson plans with regard to the adequacy of the training prescriptions (description of the training events or learning experiences) contained in these plans. It is one of four job aids de- signed to formally evaluate the effectiveness and efficiency of the training process. The other three job aids in the set are: Research Product 81-16, A Job Aid for the Structured Observation of Training, Research Product 81-17, A Job Aid for Modifying Ineffective or Inefficient Training Programs, and Re- search Product 81-18, Guidelines for Conducting a Training Program Evaluation.		

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20. (continued)

Guidance is provided for evaluating training objectives, training process plans (plans for lectures, demonstrations, and practice events), and testing plans and instruments.