

## **Research Product 2018-01**

# **Instructional Methods Tool**

Jennifer S. Tucker U.S. Army Research Institute

David R. James Peter S. Ortegel Northrop Grumman Corporation

> Trishna Patel Auburn University

Charles R. Lucero Northrop Grumman Corporation

Hillary Fleenor Columbus State University

September 2017

United States Army Research Institute for the Behavioral and Social Sciences

Approved for public release; distribution is unlimited.

## U.S. Army Research Institute for the Behavioral and Social Sciences

Department of the Army Deputy Chief of Staff, G1

Authorized and approved:

MICHELLE SAMS, Ph.D. Director

Research accomplished under contract for the Department of the Army by

Northrop Grumman Corporation.

Technical review by

Victor J. Ingurgio, U.S. Army Research Institute

## NOTICES

**DISTRIBUTION:** This Research Report has been submitted to the Defense Information Technical Center (DTIC). Address correspondence concerning ARI reports to: U.S. Army Research Institute for the Behavioral and Social Sciences, Attn: DAPE-ARI-ZXM, 6000 6th Street Building 1464 / Mail Stop: 5610), Fort Belvoir, VA 22060-5610.

**FINAL DISPOSITION:** Destroy this Research Report when it is no longer needed. Do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

**NOTE:** The findings in this Research Report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

REPORT DOCUMENTATION PAGE						
1. REPORT DATE (dd-m 06-17	іт-уу)	2. REPORT T Final	YPE	3. DATES COVERE September 201	ED (from to) 5 to December 2016	
4. TITLE AND SUBTITLE Instructional Methods Tool				5a. CONTRACT O W5J9CQ-11-D-	R GRANT NUMBER 0001 TO 22	
				5b. PROGRAM EL 633007	EMENT NUMBER	
6. AUTHOR(S) Jennifer S. Tucker ( David R. James, Pe				5c. PROJECT NUM A792	IBER	
Trishna Patel (Aubu Charles R. Lucero (I	rn University), Northrop Grumma	an Corporation),	r corporation),	5d. TASK NUMBEF 500a		
Hillary Fleenor (Col	umbus State Univ	/ersity)		5e. WORK UNIT N	UMBER	
<ol> <li>PERFORMING ORG/ U. S. Army Research Ins Behavioral &amp; Social Sc 6000 6<sup>th</sup> Street (Building Fort Belvoir, VA 22060-5</li> </ol>	stitute for the ciences 1464 / Mail Stop 561		3)	8. PERFORMING ( NUMBER Research Product R	ORGANIZATION REPORT	
<ol> <li>SPONSORING/MONI</li> <li>U. S. Army Research Ins Behavioral &amp; Social Science</li> </ol>	stitute for the	AME(S) AND ADDR	ESS(ES)	10. MONITOR ACE ARI	RONYM	
6000 6 <sup>th</sup> Street (Building Fort Belvoir, VA 22060-5		0)		11. MONITOR REF Research Product R		
Distribution Stateme	12. DISTRIBUTION/AVAILABILITY STATEMENT Distribution Statement A: Approved for public release; distribution is unlimited.					
	13. SUPPLEMENTARY NOTES Contracting Officer's Representative and Subject Matter POC: Jennifer S. Tucker					
14. ABSTRACT ( <i>Maximum 200 words</i> ): This research was a follow-on project to two U.S. Training and Doctrine Command (TRADOC)-sponsored research projects on the implementation of the Army Learning Concept. Based on the prior research findings and TP 350-70-1, a tool was developed to support curriculum developers in selecting the most effective instructional methods for Army courses. The objective was to develop a framework of learner-centric pedagogies that would be useful in training developers and/or instructors and facilitators when they are designing/executing a course using the Army Learning Concept principles. The purpose of the framework was to aid decision makers in the selection of the most appropriate and effective instructional methodologies, pedagogies, and techniques for particular learning environments, instructional content, and differences in experience levels of the students and instructors. The framework was developed into a web-based digital application, the <i>Instructional Methods Tool</i> , ( <a href="http://www.benning.army.mil/mcoe/ARIFB/recent.htm">http://www.benning.army.mil/mcoe/ARIFB/recent.htm</a> ) with specific attention paid to the practicality and utility of the tool for TRADOC training developers, instructors, and staff and faculty personnel. The tool was developed to supplement, not replace, current training developer tools or training management software, and should not be construed as a tool for an entire course, but for blocks of training or lessons within a course.						
Instructional methods, pedagogical methods, instructional techniques, professional military education, Army courses						
SECURITY CLASSIFICATION OF           16. REPORT         17. ABSTRACT         18. THIS PAGE           Unclassified         Unclassified         Unclassified			19. LIMITATION OF ABSTRACT Unlimited	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON Jennifer S. Tucker	

**Research Product 2018-01** 

**Instructional Methods Tool** 

Jennifer S. Tucker U.S. Army Research Institute

David R. James Peter S. Ortegel Northrop Grumman Corporation

> Trishna Patel Auburn University

Charles R. Lucero Northrop Grumman Corporation

Hillary Fleenor Columbus State University

Fort Benning Research Unit Scott E. Graham, Chief

September 2017

Approved for public release; distribution is unlimited.

#### ACKNOWLEDGEMENTS

The authors express their gratitude to Mr. H. Michael Starry, Chief Learning Enterprise Division, Training Integration Directorate (TID) TRADOC G-3/5/7 for supporting this follow-on research to two TRADOC-sponsored research projects on the implementation of the Army Learning Model (ALM) with the goal of supporting curriculum developers in selecting the most effective instructional methods for Army courses.

We also would like to thank all of the training developers and staff and faculty members at the Centers of Excellence who provided us with valuable input and feedback on the development of this tool. This feedback allowed us to create a better product for potential users of this tool such as training developers, instructors, and staff and faculty members.

### INSTRUCTIONAL METHODS TOOL

### CONTENTS

Pag	
BACKGROUND	1
RESEARCH OBJECTIVE	1
METHOD Phase I: U.S. Army Course Review	
Phase II: Instructional Methods and U.S. Army Course Alignment Phase III: U.S. Army Task Examples	18
Phase IV: Digital Application Development TRADOC Course Training Developers and School Staff and Faculty Review	
RESULTS	27
Content of the Tool Accessibility of the Instructional Methods Tool	
CONCLUSIONS	32
REFERENCES	33
ACRONYMS AND ABBREVIATIONS	37
APPENDIX A. INSTRUCTIONAL METHODS TOOL FEEDBACK QUESTIONNAIRE A	1
APPENDIX B. INSTRUCTIONAL METHODS TOOL HOME PAGESB	-1
APPENDIX C. MILITARY TASK EXAMPLES P1-IMITATION/SMALL GROUP/ NEW TO TASKC	<u>'</u> -1
APPENDIX D. MILITARY TASK EXAMPLES P1-IMITATION/LARGE GROUP/ NEW TO TASK	)-1
APPENDIX E. MILITARY TASK EXAMPLES P1-IMITATION/SMALL GROUP/ FAMILIAR WITH TASKE	2-1
APPENDIX F. MILITARY TASK EXAMPLES P1-IMITATION/LARGE GROUP/ FAMILIAR WITH TASKF	-1
APPENDIX G. MILITARY TASK EXAMPLES P2+P3-MANIPULATION AND PRECISION/SMALL GROUP/FAMILIAR WITH TASKG	j-1

	Page
APPENDIX H. MILITARY TASK EXAMPLES P2+P3-MANIPULAT PRECISION/LARGE GROUP/FAMILIAR WITH TAS	
APPENDIX I. MILITARY TASK EXAMPLES P2+P3-MANIPULAT PRECISION/SMALL GROUP/PROFICIENT WITH T	
APPENDIX J. MILITARY TASK EXAMPLES P2+P3-MANIPULAT PRECISION/LARGE GROUP/PROFICIENT WITH T	
APPENDIX K. MILITARY TASK EXAMPLES P4-ARTICULATION GROUP/FAMILIAR WITH TASK	
APPENDIX L. MILITARY TASK EXAMPLES P4-ARTICULATION GROUP/FAMILIAR WITH TASK	
APPENDIX M. MILITARY TASK EXAMPLES P4-ARTICULATION GROUP/PROFICIENT WITH TASK	
APPENDIX N. MILITARY TASK EXAMPLES P4-ARTICULATION GROUP/PROFICIENT WITH TASK	
APPENDIX O. MILITARY TASK EXAMPLES C1 - REMEMBERIN GROUP/NEW TO TASK AND FAMILIAR WITH TA	
APPENDIX P. MILITARY TASK EXAMPLES C1 - REMEMBERING GROUP/ NEW TO TASK AND FAMILIAR WITH TA	
APPENDIX Q. MILITARY TASK EXAMPLES C2+C3 – UNDERST APPLYING/SMALL GROUP/NEW TO TASK	
APPENDIX R. MILITARY TASK EXAMPLES C2+C3 – UNDERST APPLYING/LARGE GROUP/NEW AND FAMILARI	
APPENDIX S. MILITARY TASK EXAMPLES C2+C3 – UNDERSTA APPLYING/SMALL GROUP/FAMILIAR WITH TAS	
APPENDIX T. MILITARY TASK EXAMPLES C2+C3 – UNDERST APPLYING/LARGE GROUP/FAMILIAR WITH TAS	
APPENDIX U. MILITARY TASK EXAMPLES C2+C3 – UNDERST APPLYING/SMALL GROUP/PROFICIENT WITH T	

Page
APPENDIX V. MILITARY TASK EXAMPLES C2+C3 – UNDERSTANDING AND APPLYING/LARGE GROUP/PROFICIENT WITH TASK V-1
APPENDIX W. MILITARY TASK EXAMPLES C4+C5+C6 – ANALYZING, EVALUATING, AND CREATING/SMALL GROUP/FAMILIAR WITH TASK
APPENDIX X. MILITARY TASK EXAMPLES C4+C5+C6 – ANALYZING, EVALUATING, AND CREATING/LARGE GROUP/FAMILIAR WITH TASK
APPENDIX Y. MILITARY TASK EXAMPLES C4+C5+C6 – ANALYZING, EVALUATING, AND CREATING/SMALL GROUP/PROFICIENT WITH TASK
APPENDIX Z. MILITARY TASK EXAMPLES C4+C5+C6 – ANALYZING, EVALUATING, AND CREATING/LARGE GROUP/PROFICIENT WITH TASK
LIST OF TABLES
TABLE 1. EXAMPLE OF PSYCHOMOTOR AND COGNITIVE GROUP VERBS
TABLE 2. PRELIMINARY COURSE, STUDENT, AND INSTRUCTOR VARIABLES
TABLE 3. FINAL COURSE, STUDENT, AND INSTRUCTOR VARIABLES7
LIST OF FIGURES
FIGURE 1. EXAMPLE OF U.S ARMY FORMAL SCHOOL COURSE CHARACTERISTICS
FIGURE 2. EXAMPLE OF CHARACTERISTICS OF STUDENTS WHO ATTEND U.S. ARMY COURSES
FIGURE 3. ATN ACTION VERB SERACH RESULTS FOR "CALCULATE"18
FIGURE 4. EXAMPLE OF INSTRUCTIONAL METHODS BASED ON TRAINING TIME AVAILABLE
FIGURE 5. EXAMPLE OF MILITARY CONTEXT QUESTIONS BASED ON BLOOM'S COGNITIVE LEVEL KEY WORDS

Page

FIGURE 6.	EXAMPLE OF MILITARY CONTEXT QUESTIONS USED IN THE	
	EXTENDING AND LIFTING QUESTION SEQUENCING TECHNIQUE	21
FIGURE 7.	EXAMPLE OF INFORMATION PROVIDED TO THE FACILITATOR	
	EXPLAINING THE BACKWARDS FADING METHOD OF INSTRUCTION2	23
FIGURE 8.	EXAMPLE OF BACKWARDS FADING INSTRUCTIONAL METHOD FOR	
	CALCULATING A TIMBER CUTTING CHARGE2	24
FIGURE 9.	EXAMPLE OF THE INSTRUCTIONAL METHODS TOOL WEB-BASED	
	APPLICATION HOME PAGE2	28
FIGURE 10	. EXAMPLE OF THE INSTRUCTIONAL METHODS SECTION2	29
FIGURE 11	. EXAMPLE OF THE PHYSICAL VERB TAB	30
FIGURE 12	. EXAMPLE OF THE ADMINISTRATOR TAB	31

#### **Instructional Methods Tool**

#### Background

To better prepare Army Leaders and Soldiers to meet the future challenges across the spectrum of conflict, the US Army Training and Doctrine Command (TRADOC) developed a new Army Learning Model (ALM) in 2011 in its U.S. Army Learning Concept (ALC) for 2015 (TRADOC, 2011). This model called for a change in the way that training was typically conducted to one that was more "learner-centric". These ideas are in line with requirements levied on academic institutions by accrediting bodies for the past 15-20 years (Huba & Freed, 2000). The ALM was integrated into the current U.S. Army Learning Concept for Training and Education doctrine by emphasizing learner-centric training and education to "develop agile, adaptable, and innovative Soldiers…with the competencies required to build cohesive teams and successfully lead them in complex and chaotic operating environments (TRADOC, 2017, p. 12).

Moving from a teacher-centric to a learner-centric approach requires a paradigm shift by instructors, students, course managers, and Leaders. The ALM called for classroom instruction to focus on problem-solving events, to tailor the individual learner's training experience, and to reduce or eliminate the use of instructor-led presentations. To achieve these goals, instructional designers and developers need to possess a sound understanding of the types of instructional pedagogies that support these ideas. This is a challenging requirement because even academic professors who have had much training in this area struggle with determining the best approach for particular learners, content, proficiency levels, etc. Some training developers and instructors in the U.S. Army Centers of Excellence (CoEs) have had the opportunity to attend workshops with the goal of providing additional information regarding the ALC, especially in thinking how course outcomes may differ when the course is redesigned to be learner-centric. However, these workshops often discuss ideas at a general level or when discussed in the context of a course only a limited number of ideas are discussed in terms of learner-centered exercises. Although the ALC has provided a good start for the CoEs in thinking about this 'paradigm shift', many challenges still exist in determining the best instructional technique for a particular course.

#### **Research Objective**

The objective of this research was to determine and develop a framework of learnercentric pedagogies that would be useful to training developers and/or facilitators when they are designing/executing a course using ALC principles. The purpose of the framework was to aid decision makers in the selection of the most appropriate and effective instructional methodologies, pedagogies, and techniques for particular learning environments, instructional content, and differences in experience levels of the learners and instructors.

The framework was developed into a web-based digital application, the *Instructional Methods Tool*, to provide an output of learning methodologies (see http://www.benning.army.mil/mcoe/ARIFB/recent.htm) with specific attention paid to the practicality and utility of the tool for TRADOC training developers, instructors, and staff and faculty personnel. The final product was developed to supplement, not replace, current training

developer tools or training management software, and should not be construed as a tool for an entire course, but for blocks of training or lessons within a course.

#### Method

The approach used to develop this research product followed a four-phase process. Phase one consisted of a comprehensive review of U.S. Army course characteristics. Phase two consisted of supporting efforts: a comprehensive literature review of empirically-based instructional pedagogies was conducted and then these instructional methods were aligned and grouped with the U.S. Army course characteristics. In phase three, sample Army tasks were identified for groups and military task content examples illustrating instructional methods were developed. In phase four, the materials of phase three were developed into a prototype digital application. The last phase involved an iterative review-revise process with the prototype application. Reviewers came from two different populations: TRADOC course training developers and TRADOC school staff and faculty managers.

#### Phase I: U.S. Army Course Review

The purpose of this review was to identify the scope of U.S. Army courses that the webbased tool would need to encompass. We focused our effort on two primary sources – Headquarters, Department of the Army (HQDA) Pamphlet (DA PAM) 351-4, *U.S. Army Formal Schools Catalog* (HQDA, 2016), and the web-based Army Training Requirements and Resources System (ATRRS)<sup>1</sup>. DA PAM 351-4 (2016) "is the official source of information on formal courses of instruction offered at active U.S. Army Schools and Training Centers" (p. 1). The catalog provides general course information (description, prerequisites, course length, etc.) that is used when selecting Soldiers to attend courses. We classified the general information as course characteristics and added another characteristic – learning environment – which relates to where the Soldiers learn, i.e. classroom, vehicle bay, or field site. Figure 1 depicts an example list of the course characteristics.

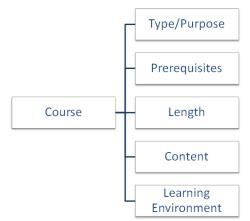


Figure 1. Example of U.S. Army formal school course characteristics.

<sup>&</sup>lt;sup>1</sup> Both the DA PAM and ATRRS can be found at https://www.atrrs.army.mil/atrrscc/.

The course characteristics describe each course and differ for each course. For example, the type/purpose of the course can range from simple trade skill producing courses, such as Wheeled Vehicle Mechanic, to more esoteric courses, such as Cyber Operations Specialist. The prerequisites identify required knowledge, skills, and abilities, etc., and in the case of U.S. Army courses, can include medical clearance and rank. The length of the course can vary from 40 to 1400 academic hours or greater, while the course content can focus on leadership, doctrinal, or technical training. The learning environment was added as students attending Army courses can train in numerous environments; for example, leadership and doctrinal courses combine both classroom and field environments, while technical skill courses could include vehicle bays, demolition ranges, or in and under water. We posited that the learning environment could impact the instructional methodology and included it for consideration as a course characteristic. To add to the readers' perspective on the scope of U.S. Army courses, ATRRS listed 20,960 courses for fiscal year 2016.

When considering which instructional method is appropriate for what Army course, you must consider student characteristics. U.S. Army course execution is impacted by the homogenous and heterogeneous nature of the student population, that is, Soldiers, Sailors, Airmen, and Marines<sup>2</sup>. U.S. Army courses can include learners who are grouped by similar characteristics (homogeneity) – i.e., military occupational specialty (MOS) or rank – as well as learners grouped by differing characteristics (heterogeneity) – i.e., branch of service or level of education. Figure 2 depicts an example of what we identified as these student characteristics.

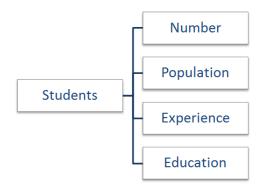


Figure 2. Example of characteristics of students who attend U.S. Army courses.

The number of learners could be considered as a course or student characteristic; for our purposes we decided to include it as a student characteristic. For example, the number of students in Army courses can range from less than 10 for highly specialized courses (Immunization/Allergy Specialty) up to 650 for leadership courses (U.S. Army Sergeants Major Course [SMC]). These two courses best typify the variation in characteristics of the student population. The Immunization/Allergy Specialty is designed for the Immunology-Allergy Technician only (homogeneity), while SMC students are from any Army MOS, can be from any branch of service (Army, Navy, Air Force, and Coast Guard), including foreign armed forces (heterogeneity). Similarly, student experience, in the individual and collective task context, can

<sup>&</sup>lt;sup>2</sup> Certain U.S. Army courses are open to all branches of the Department of Defense, to include Department of the Army Civilians.

vary within courses the same way that each student's level of education can differ. Continuing with the SMC example to highlight this variance, part of the SMC program of instruction (POI) requires small groups of students (15) to conduct training on the military decision making process (MDMP). The level of student experience with this task ranged from Infantry and Special Forces Soldiers, who had vast experience with this task, to Public Relations and Foreign Army Soldiers, who had no experience with this task. Moreover, the variance in level of post-high school education within this same group ranged from Soldiers with 1-year of college to Soldiers with multiple graduate degrees<sup>3</sup>.

Lastly we considered instructor characteristics. According to TRADOC Regulation (TR) 350-18 (2010) "AR 614-200, DA Pam 611-21, and TR 350-10, and appropriate CMP provide guidance for instructor grade and experience requirements" (p. 25). As Army instructor grade [rank] and experience are stipulated in regulatory guidance we elected to forego using instructor characteristics as variables in the web-based tool except for instructor-to-student ratio. Instructor-to-student ratios are addressed in TRADOC Pamphlet (TP) 350-70-14 Training and Education Development in Support of the Institutional Domain (TRADOC, 2015) which states that for "problem-based, learner-focused courses, as described by the ALM, ratios of 1:8 or 1:16 will be most common" (p. 81). It also lists such factors as safety (e.g. throwing a live grenade requires a 1:1 ratio), facility limitations, equipment availability, and manpower limitations that affect the instructor-to-student ratio. Reviews of a subset of TRADOC course POIs produced additional ratios of 1:20 to 1:50. Based on the variance of ratios identified, we elected to break instructor-to-student ratios into two categories – small group [ $\leq$ =1:16] and large group [ $\geq$ =1:17]. Given that the combinations of course, student, and instructor characteristics, the resulting number of variations was overwhelming (approximately 128 high level combinations) especially when considering programming logic for a web-based tool, and the alignment of instructional methodologies, we decided to reduce the combinations to a more manageable number. The reduction process is described in the next phase.

#### Phase II: Instructional Methods and U.S. Army Course Alignment

Phase II required two distinct steps. First, we needed to reduce the number of course characteristics to a more manageable number in order to facilitate alignment with instructional methodologies; and second, we needed to align instructional methods with course characteristics.

**Reducing the combinations.** To reduce the number of variables, we reevaluated our initial approach. Instead of focusing on all of the characteristics and variations among the courses and the learners, we looked for an overarching factor. Experience with U.S. Army courses led us to consider looking at both courses and learners from a task-based approach.

*U.S. Army courses*. Army courses, while differing in type/purpose, content, length, etc., are similar in one aspect – they teach tasks. Army tasks are either common tasks that apply to all Soldiers or job specific tasks identified for each MOS. Each task is assigned a title which "sums up the action to be performed" (TRADOC, 2012, p. 84) using a standard verb to define the action, i.e. Maintain an M119 Buffer Mechanism. We found that in order to standardize the

<sup>&</sup>lt;sup>3</sup> This example is based on the author's experience as a student at the United States Army Sergeants Major Academy.

writing of task titles, TRADOC provided a list of 195 verbs for use in describing collective and common individual tasks. TRADOC further divided these verbs into psychomotor and cognitive groups based on the desired performance of the Soldiers. Verbs within those groups were further sub-divided into psychomotor and cognitive levels (TRADOC, 2012, p. 177), and Table 1 includes examples of verbs grouped by these levels (the full list of verbs and associated groups and levels can be found in TRADOC PAM 350-70-1, Appendix E, TRADOC, 2012).

#### Table 1

Psychomotor Level	Verb	Cognitive Level	Verb
1. Imitation: Copy action of another; observe and replicate	Disassemble	1. Remembering: Recall or recognize information	Identify
2. Manipulation: Reproduce activity from instruction or memory	Align	2. Understanding: Understand meaning, re-state data in one's own words, interpret, extrapolate, translate	Confirm
3. Precision: Execute skill reliably, independent of help, activity is quick, smooth, and accurate	Adjust	3. Applying: Use or apply knowledge, put theory into practice, use knowledge in response to real circumstances	Calculate
4. Articulation: Adapt and integrate expertise to satisfy a new context or task	Breach	4. Analyzing: Interpret elements, organizational principles, structure, construction, internal relationships; quality, reliability of individual components	Predict
5. Naturalization:* Instinctive, effortless, unconscious mastery of activity and related skills at strategic level		5. Evaluating: Assess effectiveness of whole concepts, in relation to values, outputs, efficacy, viability; critical thinking, strategic comparison and review; judgment relating to external criteria	Assess
		6. Creating Develop new unique structures, systems, models, approaches, ideas; creative thinking, operations	Revise

Psychomotor and Cognitive Levels: Descriptions and Exemplar Verbs

\* No verbs were categorized at this level of psychomotor performance.

We elected to use these task-based verb groupings as the course variables in lieu of the many differing course characteristics for two reasons. One, by using these verb groupings we would

provide the end user – the TRADOC Training Developer, Instructor, and Staff and Faculty member – a familiar reference point within the tool, and two, we would reduce the number of course characteristics to a more manageable number for alignment of instructional methods and software programming logic.

*U.S. Army Course Students*. We applied the same task-based approach to student characteristics. Our rationale was based on previous research observations and our personal experience with learners in Army courses.

Students arrive at Army courses with varying degrees of task experience. Consider two examples – the civilian who joins the Army and the senior noncommissioned officers (NCOs) at the pinnacle of their careers. The civilians who join the Army have varying experience with Army tasks at the basic level. Some of them come from backgrounds that are conducive to military tasks – boy/girl scouts, Junior Reserve Officer Training Corps (JROTC), shooting clubs, life-guards, etc. – while others have no relevant experience. Similarly, SMC students, as previously stated, have varying task experience with lessons conducted in the SMC POI. The senior NCOs' MOS, prior assignments, deployments, and military schools affect their level of experience. For example, in the case of the MDMP training, Operations Division NCOs are more likely to have conducted or participated in this task more so than Force Sustainment Division NCOs.

The key to grouping students revolved around the experience with the task, for example, Combat Engineers who have the knowledge of basic demolitions – initiating devices, demolition characteristics, etc. – would be considered new to the advanced task of Calculate Timber-Cutting Charges which involves the application of prior knowledge under a new context. Therefore, we quantified students into three groups: New to Task, Familiar with Task, and Proficient with Task:

- New to Task No task knowledge: No fundamentals (Crawl stage of training);
- Familiar with Task Preliminary task knowledge: Understands fundamentals (Walk stage of training); and
- Proficient with Task Definitive task knowledge: Executes the fundamentals (Run stage of training<sup>4</sup>).

Grouping students into three task-based groups allowed us to further reduce the variables to a more manageable number. Moreover, we strove to define each group in terms that would be familiar to the TRADOC Training Developer.

When we combined the course and student variables with the two instructor variables (group sizes) we had a more manageable number of combinations. Table 2 lists the preliminary course, student, and instructor variables.

<sup>&</sup>lt;sup>4</sup> Crawl, Walk, Run is a progressive training regimen where training begins at the simple fundamental level and progresses to more complex levels.

#### Table 2

Course		Student	Instructor	
Psychomotor*	Cognitive	Soldier task experience	Group Size	
Imitation	Remembering	New to Task	Small Group (<=1:16)	
Manipulation	Understanding	Familiar with Task	Large group (>= 1:17)	
Precision Articulation	Applying Analyzing	Proficient with Task		
Articulation	Evaluating			
	Creating			

\* The naturalization level was not included as no verbs were categorized at this level of psychomotor performance.

However, when calculating the number of combinations from these variables we still arrived at 60 combinations – 24 psychomotor and 36 cognitive. When considering that each combination would have to align with an instructional methodology, we determined that 60 separate combinations were too many and proceeded to reduce the numbers further. This time we reviewed definitions of each psychomotor and cognitive level and determined we could combine similar levels. In combining levels, we referred to resources reflecting Bloom's Taxonomy (e.g., Krathwohl, 2002) and Dave's psychomotor levels (e.g., Huitt, 2003) as indicated by TRADOC PAM 350-70-1, Appendix E (TRADOC, 2012). The results are depicted in Table 3.

#### Table 3

	Course	Student	Instructor
Psychomotor	Cognitive	Soldier task experience	Group Size
Imitation	Remembering	New to Task	Small Group (<=1:16)
Manipulation and Precision	Understanding and Applying	Familiar with Task	Large group (>= 1:17)
Articulation	Analyzing, Evaluating, and Creating	Proficient with Task	

Final Course, Student, and Instructor variables.

By combining some levels we reduced the number of combinations from 60 to 36 - 18 psychomotor and 18 cognitive. The resulting combinations became the foundation on which to align instructional methods.

**Instructional methods literature review.** An extensive literature review was conducted to identify empirically-based, validated instructional methods for developing the psychomotor and cognitive skills levels described above. With this purpose in mind, the review was limited to meta-analytic research and research reviews investigating the effects of different instructional

methods on course outcomes across multiple samples (see Alfieri, Brooks, Aldrich, & Tenenbaum, 2011; Dochy, Segers, den Bossche, & Gijbels, 2003; Hoffman & Feltovich, 2010; Kozlowski & DeShon, 2005; Merrill, 2002, 2006; Montague & Knirk, 1993; Ning & Downing, 2012; Resnick, 2010; Schwartz & Arena, 2013; Walker & Leary, 2009). For example, a rigorous meta-analysis demonstrated the powerful effects of teaching practices, which provide structure and guidance during the learning experiences, on the development of a range of psychomotor, social/verbal, and cognitive skills as well as on course outcomes (Alfieri et al., 2011, p. 12). The findings suggest that to maximize learning and increase performance, instructional methods should include worked examples and other guided exercises that require learners to explain their ideas and provide feedback on their performance. However, as the amount of needed guidance likely depends upon one's background experiences with the tasks/content (e.g., Dyer, Singh, & Clark, 2005), the framework suggests differing methods for learners who are novice, familiar, and expert with the task/content.

*Psychomotor learning levels.* Further, in conducting the literature review, the specific results of relevant articles were reflected in the framework according to the content combinations as described in Table 3 (e.g., Alfieri et al., 2011; Anderson, Fincham, & Douglass, 1997; Hemlo-Silver, Duncan, & Chinn, 2007; Hockey, Sauer, & Wastell, 2007; Kirschner, Sweller, & Clark, 2006; Klahr & Nigam, 2004; Magliaro, Lockee, & Burton, 2005; Matlen & Klahr, 2013; Montague & Knirk, 1993; Proctor & Dutta, 1995; Rosen et al., 2010; Schaefer & Dyer, 2013; Schaefer, Irvin, Blankenbeckler, & Brogdon, 2013; Strand-Cary & Klahr, 2008; Sweller, van Merriënboer, & Paas, 1998; Merrill, 2002, 2005; van Merriënboer, Kirschner, & Kester, 2003).

Overall, to achieve the *Psychomotor* learning levels, instructional methods for novice learners reflected direct instruction methods followed by experiential methods. For example, for the *Psychomotor, Imitation, Small Group, New to Task combination*, the following empirically-validated direct-instruction methods were included in the framework:

- Demonstration of procedures in steps (students observe each step then practice);
- Facilitator could then provide a completion practical exercise (PE) where the students first complete missing steps and then complete the entire task on their own;
- A backwards chaining PE where the last component of the task is practiced first so that students are provided with knowledge of the results prior to learning the beginning components (e.g., bombing a target);
- A backwards fading PE where students are first shown the complete worked example and certain components are then removed until finally the students complete the entire task on their own;
- A forward chaining PE in which the order of the task performance is practiced from first to last; as time allows multiple rehearsals with instructor feedback should be performed; key is feedback by facilitators;
- Instructors/facilitators/teachers should direct the pupil's attention to important cues and rules (Cues can be seen, heard or felt), give clear verbal descriptions, and inform the learner of the cues that he will respond to and rules he will follow when using the skill;
- Break the task into subtasks if possible and sequence in the order that they are performed;

- Simplify the task at the start of practice but do not violate the pattern of the task as a whole;
- Demonstration or verbal explanation tells the students what responses under their control and to what cues they should react;
- Instructor/facilitator/teacher should watch students intently to provide prompt and accurate feedback about his performance;
- Research shows that focus on the performers movements (fingers, hands, and head) are relatively ineffective. Rather, directing attention to the effects of the individual movements on the environment results in more effective performance and learning. Instructors/facilitators/teachers need to monitor to help students avoid establishing a faulty habit. Judge progress in terms of technique vice output;
- Devices to record what the learner did are valuable (tape records for speech teachers, coaches take motion pictures, etc.); and
- If learning how to conduct tasks on a larger system, the instructors/facilitators/teachers may isolate the features and functions of the system that are required to perform the steps of specific tasks. For example, only those menu choices needed to perform certain tasks are made available to the students. The students are directed only to those functions that are needed at that time in the course. Instructors could employ software that "takes over the input device (e.g., mouse)" of the student to show the student which parts of the user interface to select (e.g., menu choices, buttons, graphics, or indexes). Advantages of this method is that users spend less time practicing the steps and components of the task and less time recovering from errors. Learning by discovery on the complete system is inefficient.

If the students possessed some <u>familiarity</u> with the content and to achieve the *Imitation* level, the instructional methods reflected direct instruction methods to review the content and as a check on learning followed by experiential methods. Thus, the following direct and experiential methods were included in the framework based on the literature review results for learning in small group settings:

- Students should receive the demonstration first as a refresher then could practice and demonstrate to the class as a check on learning;
- They should receive feedback from the facilitators, and if they show proficiency they could then assist students who are rehearsing the procedures as indicated above and who are performing completion tasks; and
- They should assist in providing feedback and on-the-spot corrections and could make their own decisions regarding which trial they would want feedback. Feedback frequency may be less important than the individuals' ability to choose or not choose feedback. May lead to more active involvement by the learner, and learners increasing their effort during practice.

To achieve the next level of psychomotor learning, *Manipulation* + *Precision*, it was determined that students would already possess a level of <u>familiarity</u> with the content. It is recommended that instructors first assess the students to ensure they possess the requisite knowledge and skills for advancing to this level. Then, a combination of direct and experiential instructional methods can be employed in small group learning settings, such as:

- In addition to continued rehearsals of each step of the procedural/psychomotor task, exercises should focus on having students explain why they think they are performing certain errors;
- Exercises should present students with faults in the procedures/steps and have the students troubleshoot these faults in order to successfully address the problems;
- Facilitators should ask students to explain their thought processes while troubleshooting;
- Facilitators could provide additional procedural information as required (just-in-time procedural information) in order for the students to successfully complete the exercises;
- Resources should be made available to reduce cognitive load such as memory joggers, mathematical formulas, specs, etc.;
- The key is for students to receive additional practice while explaining their steps, errors, and demonstrating the ability to troubleshoot;
- Assessments could determine if students can perform the tasks without errors across multiple situations;
- Instructors can provide multiple varied examples and determine if students can perform these tasks in novel varied contexts. This allows students to learn the deep structural aspects of the procedures even if the surface level conditions change;
- Students could first be assessed with completion tasks in novel contexts and then on their own;
- Feedback is key for the students to know where they are making errors, and then the facilitators should ask the students why they think they are making these errors in a new context;
- Learning scaffolds should be reduced until students are operating, creating, navigating on their own without errors; and
- Simulators, desktop trainers, etc. are valuable technologies to provide students with varied performance examples and to test their performance of the procedural tasks;
- If students practice before knowing the correct general pattern of the task they are likely to practice wrong actions;
- If given a large amount of explanation before practicing the task, then the students will understand little of the explanation;
- Need a balance between explanation, practice, and further explanation;
- Practicing in context, using realistic, significant cues, varying practice materials and conditions, and assessing skills before new scenario is given;
- Students should practice in the greatest variety of situations they can handle;
- Instructor/facilitator/teacher should watch students intently to provide prompt and accurate feedback about their performance;
- Instructors need to monitor to help students avoid establishing a faulty habit;
- Instructors should judge progress in terms of technique vice output;
- Devices to record the students' performance are valuable (tape records for speech teachers, coaches take motion pictures, etc.); and
- Feedback frequency may be less important than the individuals' ability to choose or not choose feedback. This may lead to more active involvement by the students, thereby increasing their effort during practice. Instructors could allow the students to decide after which trial they want feedback.

To achieve this level of psychomotor learning, *P2* (*Manipulation* + *Precision*) for students who were already <u>proficient</u> with the content, it is recommended to first assess the students to ensure their proficiency and then employ the following direct and experiential instructional methods for learning in small groups:

- Students need to demonstrate proficiency either by demonstrating at the beginning of the class or taking a pre-test and 'testing' out;
- These students also should demonstrate proficiency by performing the tasks on their own in varied contexts (if they perform the tasks with errors then they should be given completion tasks with feedback from the facilitators until they demonstrate proficiency);
- They should be able to provide full explanations of why they are performing certain steps, how to troubleshoot faults, etc.;
- They should be tested across in varied contexts until a high level of proficiency is demonstrated;
- Once this is achieved they can perform as peer coaches to the less experienced students as these students are troubleshooting, explaining troubleshooting strategies, testing skills in novel contexts, etc.;
- Simulators, desktop trainers, etc. are valuable technologies to provide students with varied performance examples and to test their performance of the procedural tasks. The skill of adapting to different situational requirements is developed through variability in practice conditions; and
- Test under high-workload conditions.

To achieve the *Articulation (P3)* level, it was determined that students would already possess a level of familiarity with the content. Thus, the following combination of direct and experiential instructional methods were included in the framework for this combination in small group settings:

- Examples of how two or more tasks are combined as part of a system should be demonstrated to the students;
- Completion tasks or backwards fading of complete examples of how two or more tasks are performed together could be provided to the students;
- Once students practice performing two or more tasks together and receive feedback from the instructors then they can receive examples and exercises across multiple contexts for varied practice. This allows students to learn the deep structural aspects of the procedures even if the surface level conditions change;
- Students should be tested on the full integration of the two or more tasks and be provided with feedback by the facilitators;
- Facilitators should ask the students to explain why they are performing certain errors, why they are performing certain steps, how they might troubleshoot faults, etc.;
- Facilitators could increase the complexity of their questions, the rate at which they ask questions, etc. to induce realism of performing these tasks in high stakes dynamic situations;
- Facilitators should continue to assess students at all of the psychomotor levels to ensure that students perform the individual tasks (including sub-tasks and sub-goals) at an

autonomous level and continue to provide feedback on how the students are performing multiple tasks together;

- Assessments could include asking students to perform multiple tasks in varied and novel conditions (e.g., performing tasks in novel terrain, weather);
- Facilitators can provide demonstrations of how individual tasks are integrated into larger systems and performed as part of collective tasks. As such, exercises could require students to perform tasks as part of crews/teams and explain how their individual tasks support crew/team performance;
- Assessments could focus on how students visualize or perform individual tasks within larger systems, teams, etc.;
- Rehearsals, practice, assessments, and feedback could focus on the integration of these skills in a larger context; and
- Simulators could be employed to rehearse and practice crew/team collective performance prior to live exercises.

For the *Articulation psychomotor level*, students who were <u>proficient</u> with the content, the following direct and experiential instructional methods were included for learning in small groups:

- Exercises require students to integrate individual tasks into a larger system, collective performance, etc.;
- Facilitators could ask students to explain how their tasks are integrated with crew-based performance, larger systems etc.;
- Exercises could focus on how they troubleshoot integration issues and perform two or more integrated tasks;
- Students could coach and mentor less experienced students;
- With longer class times, highly proficient students could design products, repair live equipment, perform on-the-job training, shadow instructors, demonstrate tasks to different audiences, prepare explanations, briefings, papers to unit leaders, stakeholders, etc.; and
- With sensori motor tasks "choking" may arise from specific task characteristics embedded in tasks that are susceptible to performance pressure (complexity and/ or proceduralization).

To achieve the initial psychomotor learning level, *Imitation*, in larger learning group contexts, the following recommendations were made to maximize the effectiveness of the recommended instructional methods indicated above:

- In large groups, facilitators first demonstrate procedures in steps. Students observe each step then practice in small groups;
- The large group can be broken up into smaller groups in each corner of the classroom or outside areas. Facilitators could then provide an entire worked example to the larger group, and the PE could be for students in smaller groups to first complete missing steps and then complete the entire task on their own backwards fading);
- As time allows multiple rehearsals with instructor feedback should be performed in small groups; the key is feedback to individuals by facilitators;

- A culminating event could be for one individual from each group to demonstrate the procedures to the large group;
- Instructors/facilitators/teachers should direct the students' attention to important cues and rules (cues can be seen, heard or felt); giving clear verbal descriptions; informing the students of the cues that they will respond to and rules they will follow when using the skills;
- Break the task into sub-tasks if possible and sequence in the order that they are performed. Simplify the task at the start of practice but do not violate the pattern of the task as a whole;
- Demonstration or verbal explanation tells the students what responses are under their control and to what cues they should react. Instructor/facilitator/teacher should watch students intently to provide prompt and accurate feedback about their performance;
- Research shows that a focus on the performers' movements (fingers, hands, and head) are relatively ineffective. Rather directing attention to the effects of the individual movements on the environment results in more effective performance and learning. Instructors/facilitators/teachers need to monitor to help students avoid establishing a faulty habit; and
- Judge progress in terms of technique vice output. Devices that record what the students' performance are valuable (tape records for speech teachers, coaches take motion pictures, etc.).

To achieve the psychomotor learning level *Manipulation* + *Precision*, the recommended instructional methods reflected the need to assess students to ensure that they possessed the skills required at that level, to assist the instructors in providing feedback and on-the-spot corrections, and assigning hands-on work to smaller groups. As the P3 Psychomotor learning level involves performing two or more tasks together, if the class has approximately 30 desktop trainers then the approach would be similar to that of the small group description. If it is a 200-person class without technology then P3 might not be possible with a large group.

*Cognitive learning levels.* To achieve the cognitive learning levels, recommended instructional methods reflected empirically-based approaches for each level (e.g., Alfieri et al., 2011; Haydon, Mancil, Kroeger, McLeskey, & Lin, 2011; Kalaian & Kasim, 2014; Kyndt et al., 2013; Montague & Knirk, 1993; Schwartz, Chase, Oppezzo, & Chin, 2011; Volger, 2008; Tomcho & Foels, 2012; Zbylut, Brunner, Vowels, & Kim, 2007). For the cognitive level *Remembering* for both novice students and students who had some familiarity with the content, the following direct instructional methods were recommended for classes taught in small groups:

- Presentation of the information with guided notes (students are given partially completed notes and are required to fill in the information as the presentation is conducted;
- Facilitator asks inquiry questions and could then provide a completion task(s) (first complete missing steps and then complete the entire task on their own backwards fading) as PE(s) and time allows;
- Multiple practice sessions with instructor feedback is key to being able to recall learned information; and
- With a longer timeframe, a cycle of presentations with examples, probing questions that ask students to explain their responses, and feedback regarding these explanations could be conducted to provide additional opportunities for the students to learn the information.

For students who are more <u>familiar</u> with the content, they should receive the presented information as a refresher, but instructors may want to connect the information with knowledge that the students already know (advanced organizers). Then, the students could demonstrate that they can recall the information as a check on learning. They should receive feedback from the facilitators, and if they show proficiency they could then assist students who are conducting the PEs as indicated above. They should assist in providing feedback and on-the-spot corrections.

To achieve the *C2*, *Understanding and Applying*, level for <u>novice</u> learners, the following experiential methods were recommended:

- If no pre-class work can be assigned, then start the class with a PE designed to have students work on solving a particular problem, review elements of a case study, research possible reasons for particular mission outcomes, etc. After the students have engaged with the PE, facilitators could then provide more detailed information regarding the specific material and information to be learned. Following this presentation of information, a PE should be conducted which requires the students to apply this information to a novel context. The context of the second PE should have the same objectives as the first PE, however, the conditions and surface elements should differ;
- If the class has a short timeframe, then the facilitator needs to provide feedback to the students on their attempted solutions, explain the intended outcomes, discuss that although the contexts differed the knowledge and skills to perform successfully in those situations were the same; and
- With a longer timeframe, multiple PEs could be conducted with varied contexts so that the students can practice applying their knowledge and skills across a range of possible plausible situations. Facilitators should ask probing questions that ask students to explain their responses and provide feedback regarding these explanations. If pre-class work can be assigned (read-aheads, interactive multimedia instruction, presentation slides, Army doctrinal manuals and pamphlets), then face-to-face class time can be used by the facilitator to ask the students questions about the reading, such as how they would apply the information across a range of contexts. Homework also could consist of having the students apply the information to their own experiences, and then the students could discuss these experiences in class. More complex examples could be provided by the instructors as the students show proficiency in applying the learned information. The facilitators should provide feedback to the students regarding whether their understanding and application of the material are accurate, realistic, practical, meets the standard, etc. By providing additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information, facilitators can determine whether the students can reach a higher level of understanding of the material. As additional procedural information is provided, backwards fading exercises may be used to assess students' proficiency with the new material.

To achieve the cognitive level *Understanding* and *Applying* for students who are <u>familiar</u> with the content, the following experiential methods were recommended:

• Video-taped lectures, PowerPoint presentations, and read-aheads could all be assigned as refresher or new information to be learned as assigned pre-class work or homework.

Then, in class, facilitators could maximize the synchronous/face-to-face time with activities that require the students to participate in group work, case study discussions, explanations of applications of the content to novel contexts, etc.;

- Homework also could consist of having the students apply the information to their own experiences, and then the students could discuss these experiences in class;
- More complex examples could be provided by the instructors as the students show proficiency in applying the learned information;
- PEs could be assigned in which the conditions and surface elements differ;
- If the class has a short timeframe, then the facilitator needs to provide feedback to the students on their attempted solutions, explain the intended outcomes, and discuss that, although the contexts differed, the knowledge and skills to perform successfully in those situations were the same;
- With a longer timeframe, multiple PEs could be conducted with varied contexts so that the students can practice applying their knowledge and skills across a range of possible plausible situations;
- The facilitators should provide feedback to the students regarding whether their understanding and application of the material is accurate, realistic, practical, meets the standard, etc.;
- By providing additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information, facilitators can determine whether the students can reach a higher level of understanding of the material;
- One way to sequence the class is to have students first use specific examples from their prior experience or through case studies to further learn the specific knowledge and information of the concepts, then the students could practice this knowledge by applying the specific declarative knowledge structures, rules, and procedures to novel contexts;
- Facilitators should ask probing, rapid questions that ask students to explain their responses and provide feedback regarding these explanations;
- PEs also could consist of troubleshooting faults, problem solving errors, conducting analog procedures in case equipment fails (e.g., navigate plane without instruments), testing the students' expertise level by determining whether the declarative knowledge and procedures can be applied in ambiguous, dynamic, and challenging contexts;
- If appropriate, test whether the application of procedural skills have become automatic allowing the Soldier to advance to higher levels of understanding and complexity (e.g., whole systems thinking, strategic planning);
- By providing additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information, facilitators can determine whether the students can reach a higher level of understanding of the material; and
- As additional procedural information is provided, backwards fading exercises may be used to assess students' proficiency with the new material.

To achieve the cognitive level *Understanding and Applying* for students who are <u>proficient</u> with the content the following experiential instructional methods were recommended:

• Proficient students could provide the class with additional examples and/or applications of the information that is presented by the facilitators;

- These students could provide peer-to-peer coaching while the less experienced students are conducting the PEs as described above;
- Proficient students should assist in providing feedback and on-the-spot corrections;
- Proficient students could assist the instructors in preparing lessons and researching ideas for class discussion;
- With longer class time, highly proficient students could shadow facilitators, present material to different audiences, prepare explanations, briefings, and papers to unit leaders, stakeholders, etc.; and
- Facilitators should test the students' knowledge of the material by having them apply the concepts to novel contexts and assign more complex practical exercises for the students to complete. These exercises could reflect the types of tasks that the students would perform on the job (e.g., translating authentic materials, preparing operations orders, researching complex problems, synchronizing intelligence information, performing knowledge management activities, preparing strategic level briefings) so that the students can practice accomplishing the tasks and receive feedback, cues, and just-in-time information from the facilitators to enhance their learning and maximize their performance.

To achieve the third cognitive level (*Analyzing, Evaluating, and Creating*), it was determined that students would already possess a level of familiarity with the content. Thus, the following experiential instructional methods were included in the framework for this combination in small group settings:

- The sequencing of classroom instruction for this level should first require the students to complete an assignment on their own (either ahead of time as homework or during the first portion of the class) and then receive feedback on their work by their peers and facilitators;
- PEs at this level should include debates, research assignments that require students to discern between facts and inferences, testing hypotheses and providing supporting evidence for their results, analyze concepts with contrasting cases such that the surface features of the scenarios change but the underlying knowledge and skill requirements remain the same (i.e., analysis of deep structures);
- Facilitators could assign individuals to different roles in a case and discuss different viewpoints and perspectives, especially cross-cultural ones. Students could analyze policy decisions and the second- and third-order effects and possible unintended consequences of strategic or operational decisions;
- Following each PE, students should receive practice accomplishing the tasks and receive feedback, cues, and just-in-time information from the facilitators to enhance their learning and maximize their performance; and
- At this level, facilitators could assess student learning by requiring the students to create a new approach for their specific domain area, propose how to integrate information from two different systems to increase performance effectiveness in a particular domain, and defend the logic of their decision making processes, solutions, and outcomes.

To achieve or sustain the third cognitive level, *Analyzing, Evaluating, and Creating,* for students who are <u>proficient</u> with the content, the following experiential learning instructional methods were proposed:

- The PEs for proficient students could reflect the PEs for those above in the <u>familiar</u> with the content such as debates, contrasting cases, analysis of case studies, policy decisions, and the effects of the second- and third-order effects and unintended consequences of strategic decisions;
- Proficient students should be able to formulate their own hypotheses, judgements, solutions for complex problems and be able to defend their logic, rationale, and processes/procedures of their decisions and outcomes;
- Proficient students also should be able to critique and evaluate the assertions of others, thus, facilitators could assess students by requiring them to analyze existing decisions, premises, and outcomes of others and write an Oped or other critique of this work and be able to defend their own rationale;
- Students should be able to think at a high strategic or operational level, integrate disparate pieces of information, and distinguish between facts and inferences;
- The assessment of proficient students could include requiring students to create models or otherwise demonstrate the logic of their decision making processes, perform at a very high level with authentic job materials, analyze and use information and outputs from complex systems, work on a team of experts to solve complex problems, and create their own solutions to complex problems with ambiguous or missing information; and
- Demonstration of such capabilities could include briefing stakeholders on their solutions, shadowing facilitators and other experts, performing work on-the-job with real equipment and personnel and receiving feedback from the facilitators or other mentors (e.g., diagnosing and performing medical treatment, analyzing complex data and technical information, producing high level intelligence reports), and creating models of the effects of organizational processes on personnel, resources, mission outcomes, etc.

To achieve the cognitive learning levels in <u>larger</u> learning group contexts, facilitators could present material to the large group, then break the group into smaller groups to conduct the PEs as described above. If the size of the group is about 30 students, then the approach would be similar to that of the small group description.

To achieve the C2, *Understanding and Applying*, level with <u>novice</u> learners with a larger class size, in contrast to the recommended sequence of instruction for smaller groups at the C2 level, a PE as the first learning event is not recommended as this is too difficult to manage as the first activity with a large group. Information should be presented with guided notes and break into groups for PEs (application of knowledge across different contexts, discussion of case studies, relating to personal experiences). After the PEs, small groups can share outcomes of discussions with the larger group. Facilitators and peers should ask probing questions that require students to explain their logic and rationale for their application of the knowledge and information. With a longer timeframe, a cycle of presentations with more complex examples, PEs conducted with small groups, and group presentations with probing questions that ask students to explain their responses, and feedback regarding these explanations could be executed to provide additional opportunities for the students to understand and apply the information.

Achieving the second and third cognitive levels with students who are familiar or proficient with the content may not be possible with large groups given the nature of the instructional methods described above.

#### Phase III: U.S. Army Task Examples

The purpose of Phase III was to provide the TRADOC Training Developers with Army task exemplars that illustrated aligned instructional methods. This phase followed a two-step process. Step one involved a review-revise iterative process to identify appropriate Army task examples for each of the 36 combinations, and step two involved developing task content that illustrated the instructional methods (see Appendices C - Z).

**Identifying U.S. Army tasks.** The Army's repository of individual and collective tasks and drills is accessible on the Army Training Network (ATN) at https://atn.army.mil/. Tasks are searchable by either title or number. We used the verb list from TRADOC PAM 350-70-1 (TRADOC, 2012) to identify appropriate tasks for each combination. As stated previously, each verb in the list was designated to either the psychomotor or cognitive group and was matched to a level within each group, i.e. "Calculate" was assigned as a cognitive verb at the third level of Applying. To find an appropriate doctrinal Army task for the combination "Understanding and Applying/New to Task/Small Group," we selected "Search Task by Title" and entered "Calculate". The results of the search are depicted in Figure 3.

	my Training Network Solutions to Stay Army Strong	t XXX	Ř.
Home	myFavorites ATN A-Z Unit Training Management myTraining	Videos Links Collaborate Help	
Home		Search ATN:	Go
	<u>Return to First Page</u>	Close	
	ATN Home Page Search Re	esults	
	Results for " <b>calculate</b> "	50 Item(s) Found - Page 1 of 3	
		<u>Next &gt;&gt;</u>	
	Home Page Task Search Result(s) By Title:		
	052-193-3022 Calculate Timber-Cutting Charges Individual		
	052-193-3023 Calculate Steel-Cutting Charges	Individual	
	052-193-3024 Calculate Breaching Charges	Individual	

Figure 3. ATN action verb search results for "Calculate".

We reviewed each task to determine which would best illustrate the aligned instructional methods. We followed this process for each combination and provided a list of tasks to the research team for consideration. Once all combinations had been assigned an Army task we shifted focus to developing content that would illustrate the instructional methods.

**Developing U.S. Army task content.** Content was developed for each selected Army task based on the aligned instructional method. The purpose of the content was to illustrate to the TRADOC Training Developers a way of incorporating specific instructional methods within Army task training.

Task content was developed using task summaries and training and evaluation outlines (T&EOs) found under the task link on the ATN website. The task summaries and T&EOs for the selected tasks were combined with the aligned instructional methods for each combination to illustrate a way of incorporating instructional methods into task training. The information for each combination was presented in a standard format to provide training developers with a common picture, that is, what the developers would see on one page was in the same location on another page with the content specific to instructional method. The information was presented in the following sequence (see Appendix C):

- Recommended Methods and Sequence of Instruction;
- Key Points for Success;
- Facilitator Considerations;
- Practical Exercise Considerations; and
- Examples of instructional methods specific to physical or cognitive desired performance (Task summary or T&EO specific).

**Recommended methods and sequence of instruction**. This information was based on one additional factor that was initially considered as a course characteristic but rejected based on the variance between courses – the length of time available for training. We reconsidered this characteristic after reviewing course POIs and determining that as the POI is constructed the training developer breaks task training into hour or multi-hour/day lessons. To address this variable, we attempted to provide instructional methods based on training time available as a recommended sequence of instruction. To this end each combination began by describing instructional methods by time. Figure 4 illustrates an example of this information.

Recommended Methods and Sequence of Instruction			
Choose the method of instruction based on the "Time of Instruction" for the ELO.			
Time of     Method of Instruction       Instruction			
2 hours	Ideally, read aheads and pre-class work could be assigned so that the classroom face-to-face time is maximized by participating in group work, case study discussions, explanations of applications to novel contexts or applications of their own experiences		
4-8 hours	More complex examples could be assigned. Immediate feedback should be provided to Soldiers following the PEs.		

*Figure 4.* Example of instructional methods based on training time available.

*Key points for success.* Key points for success were identified for each type of instructional method. One such key point concerns how facilitators could develop questions and use question sequencing techniques to increase student learning. To illustrate this key point, information was provided on question development in a military context for each cognitive level. Figure 5 illustrates an example of this information.

Cognitive Level	Question Key Words	Military Task: Apply the Military Decision Making Process (MDMP) Task Example Questions/Tasks
C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc.	<ul> <li>Compare and Contrast the similarities and differences between plans and orders.</li> <li>Explain the purpose of the running estimate.</li> <li>Summarize higher headquarters concept of the operation.</li> <li>Restate the commander's intent in your own words.</li> </ul>
C3 - Applying	Develop, Identify, Construct, Organize, Plan, Utilize, etc.	<ul> <li>Identify the specified, implied, and essential tasks.</li> <li>Develop 2 COAs based on commander's guidance.</li> <li>Construct tentative task organizations for each COA.</li> <li>Identify resource shortfalls.</li> </ul>

*Figure 5.* Example of military context questions based on Bloom's cognitive level key words as designated in TRADOC PAM 350-70-1 (TRADOC, 2012).

Similarly, information was provided on question sequencing. Multiple questioning sequences, as found in Volger (2008), were provided with question examples written for a military context. Figure 6 illustrates one example of sequencing where the facilitator would ask questions at a lower level (extending) before asking a question at the next higher level (lifting) that builds on the previous answers.

Question Sequencing Techniques to Promote Learning	
<b>Extending and lifting</b> – involves asking a number of questions at the same cognitive level, before lifting the level of questions to the next higher level.	
Example	Apply the MDMP Step 2 Mission Analysis
<b>Extending</b> C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>
<b>Lifting</b> C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>

*Figure 6.* Example of military context questions used in the extending and lifting question sequencing technique.

*Facilitator considerations.* Information was provided to illustrate the facilitator's role when applying the aligned instructional method. This information was captured as guidelines and was not all encompassing. For example, a facilitator who is teaching a task that requires the student to apply prior knowledge in a novel context could take the following steps:

- Maximize the face-to-face time with activities that require the students to participate in group work, case study discussions, explanations of applications of the content to novel contexts, etc.;
- Provide more complex examples as the students show proficiency in applying the learned information;
- Provide feedback to the students regarding whether their understanding and application of the material is accurate, realistic, practical, meets the standard, etc.;
- Provide additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information to determine whether the students can reach a higher level of understanding of the material; and
- Ask probing, rapid questions that ask students to explain their responses and provide feedback regarding these explanations.

Similar guidelines were provided for each combination. Guidelines were linked to the instructional method and adjusted based on the combination variables of class size (small or large group), student experience (New, Familiar, or Proficient), and level of performance required (psychomotor or cognitive).

*Practical exercise considerations.* Information was provided for facilitators to consider when selecting and implementing a PE as a check on learning, again, this information was

captured as guidelines and not considered all encompassing. PE considerations, while they might be applicable to most situations, are linked to the aligned instructional method. Examples of PE considerations are:

- PEs could be assigned in which the conditions and surface elements differ;
- PEs could consist of troubleshooting faults, problem solving errors, conducting analog procedures in case equipment fails (e.g., navigate aircraft without instruments), testing the students' expertise level by determining whether the declarative knowledge and procedures can be applied in ambiguous, dynamic, and challenging contexts; and
- Backwards fading exercises may be used to assess students' proficiency with the new material as additional procedural information is provided

As with the facilitator considerations, similar guidelines for PE considerations were provided for each combination. Guidelines were linked to the instructional method and varied based on the combination of variables.

*Examples of instructional methods specific to psychomotor or cognitive desired performance.* The information for each combination and associated Army task was provided as an example of how to incorporate the instructional methods into Army task training. For example, the aligned instructional methods for the combination "Understanding and Applying/New to Task/Small Group", of which Calculate Timber-Cutting Charges is a sample task, were identified as:

- Implementing a backwards fading model to train sequential task steps;
- Providing just-in-time information as students conduct Pes;
- Increasing student understanding of concepts by providing PEs with novel contexts; and
- Providing memory joggers to reduce cognitive load.

Each example of an instructional method began by providing the training developers with explanatory information followed by a graphic example using task based performance steps. As an example, the information provided to training developers for the task Calculate Timber-Cutting Charges is depicted in Figures 7 and 8.

#### **Backwards Fading Example**

Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) 🛁 across learning trials.

Used to:

- · Teach tasks to individuals who have no prior knowledge of the task
- · Teach tasks that are cumulative in nature (relationship between steps)
- · Move individuals from worked examples to problem solving

Key points for success:

- · Ongoing evaluation of the Soldier's performance is required.
- The Facilitator determines when to remove instructional support based on Soldier performance

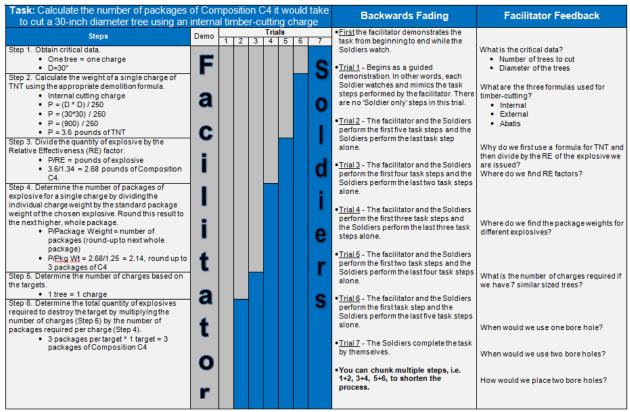
Techniques include:

- · Together, the Facilitator and Soldier perform a series of trials (attempts).
- In early learning trials, both the Soldier and the facilitator are involved in performing task steps.
- In later learning trials, more and more of the task steps are performed by the Soldier alone.

*Figure 7.* Example of information provided to the facilitator explaining the backwards fading method of instruction.

The explanatory information was provided as a means of informing the training developers and facilitators of an instructional method they might not be familiar with. In some instances, the instructional method identified in academic literature as the most appropriate for the task to be trained might not be included in U.S. Army doctrinal publications. Therefore, the intent behind the information was to provide a standardized definition and an indication of when and how to implement the instructional method.

The graphic example provided a means of informing the training developers and facilitators how to incorporate the instructional method into task training utilizing a format that was familiar to them. In the example in Figure 8, the training developers would have developed the task title and performance steps for "Calculate Timber-Cutting Charges" as part of their responsibilities. By incorporating the instructional method of backwards fading into a familiar format, we hoped to illustrate a way of connecting the dots between task content and instructional method.



*Figure 8.* Example of backwards fading instructional method for "Calculate Timber-Cutting Charges".

Army tasks were selected and task content was developed for all 36 combinations identified in the previous phase (see Appendices C - Z). An iterative review/revise process was incorporated into task content development to insure the appropriate instructional methods were clearly described.

#### **Phase IV: Digital Application Development**

The purpose of Phase IV was to develop the results of the previous phases into a digital application for U.S. Army course training developers and facilitators. The discussion that follows will focus on challenges we encountered in developing an application for this target audience, rather than the technical aspects. The output of this phase, a deployable digital application, will be discussed in the results section.

**Development challenges.** Based on target audience characteristics we identified two challenges – distribution and accessibility – that dictated the type of application – standalone or web-based –that could be developed. The characteristics of the target audience that most impacted our decisions were: 1) a large number of users; 2) who are geographically dispersed; and, 3) who work on Government encrypted computers and networks. The solution to these challenges lay in the development of a web-based application deployed on an Army .mil website.

*Distribution*. The first two characteristics of our target audience indicated a challenge in distributing the application. Our target audience consisted of U.S. Army training developers at each school and facilitators for each course located throughout the continental United States (CONUS) and worldwide. Research conducted on the ATRRS website revealed that at the time of development there were potential users of the application at 834 schools, and in 20,960 courses being conducted in all states, two territories (Guam and Puerto Rico), and three countries (Germany, Japan, and Korea). The question of "how to distribute the application" to this large number of geographically dispersed users impacted decisions on the type of application we could develop. We identified a similar challenge with the third target audience characteristic.

*Accessibility*. The third characteristic of our target audience indicated a similar challenge, but this time in accessibility to the application. U.S. Army training developers and facilitators access training management tools and systems, such as the ATN and the Digital Training Management System (DTMS), from encrypted computers on a government network. Access to, or from, these computers and systems is regulated by cybersecurity protocols outlined in AR 25-1 *Army Information Technology* (HQDA, 2013), AR 25-2 *Information Assurance* (HQDA, 2009), and DA PAM 25-1-1 *Army Information Technology Implementation Instructions* (HQDA, 2014)<sup>5</sup>. For example, from an application accessibility standpoint, information in these documents identified that:

- Access to the Army network is restricted to authorized users (HQDA, 2013, p.25);
- Access from the Army network to public sites can be restricted (HQDA, 2009, p. 41);
- Mobile code executable software is restricted across the Army network (HQDA, 2009, p. 26);
- Prior approval of any media, e.g. USBs, CD-ROM, floppy disk, is required (HQDA, 2009, p.16);
- Hardware and software changes to the Army's approved network baseline require a certificate of networthiness (HQDA, 2013, p. 41); and
- Information that is for Army personnel only should be located within an enterprise portal, e.g. AKO, on the Army network (HQDA, 2014, p.24).

The cybersecurity protocols found within the information management policies also impacted our decision on the type of application we could develop.

**Solution.** Initially, we considered developing an application using Microsoft Office <sup>TM</sup> (Excel or Access) products as this software is government approved and prevalent on government computers. However, when considering how to distribute such an application using approved methods (i.e. e-mail, file transfer protocol site, or compact disk) we realized that we could not ensure that all users received and correctly implemented the application. We next considered a desktop executable application, which while more easily distributable and more easily implemented (i.e. go to this website and download and install the application), did not afford accessibility due to the previously listed government computer restrictions.

Finally, we decided on a web-based application that would be designed to hang on an approved Army .mil website. This solution would address both challenges. First, distribution

<sup>&</sup>lt;sup>5</sup> These documents can be downloaded from <u>http://www.apd.army.mil/</u>.

would only involve notifying the training developers and facilitators as to the location of the application, that is, rather than sending one application to thousands of users, thousands of users would come to one application. Second, by hanging the application on an Army .mil restricted website only authorized users – training developers and facilitators with common access cards  $(CAC)^6$  – would have access to the application.

However, developing an application to reside on an approved Army .mil website required more technical information from government information technology (IT) specialists. We approached IT personnel at the Fort Benning Network Enterprise Center (NEC)<sup>7</sup> to determine the programming language and software support requirements for an application to reside on the Army network. NEC personnel and the application development team established an open line of communication resulting in close coordination as technical questions arose. The NEC personnel provided guidance related to:

- Web framework support;
- Web server versions;
- Internet information services (IIS) versions, and
- Backwards compatibility (web-browser and operating system).

The application development team combined information received from the NEC with task selection and content files to develop a beta version of the application. The beta version was deployed on an external server to facilitate feedback from research team members. Multiple iterative changes were made prior to presenting the application to training developers and facilitators for their feedback.

#### **TRADOC** Course Training Developers and School Staff and Faculty Personnel Review

The instructional methods tool was developed for use by institutional training developers and facilitators. Validation of the tool required reaching out to these personnel for their feedback and a small subset of available supervisors, training developers, staff and faculty personnel, and facilitators was identified as the primary reviewers. A content and functionality questionnaire (Appendix A) was developed and included the uniform resource locator (URL) address as a means for obtaining the feedback. Feedback provided by the reviewers was compiled, adjudicated, and provided to the development team for inclusion in the application.

**Content feedback.** For the most part, content feedback focused on changing how information was displayed rather than changing the information. As a result of the feedback, graphical information within each Recommended Sequence of Instruction section was modified to text base information to enhance understanding. However, in three instances reviewers asked for more information to be included in the tool. The first instance required the addition of information that cross-walked TRADOC PAM 350-70-14 (HQDA, 2015) instructional methods to the academic instructional methods to aid training developers in making the link between the

<sup>&</sup>lt;sup>6</sup> Common access cards (CAC) are identification cards issued to authorized personnel by the Defense Manpower Data Center and enable access to Army and DOD enterprise services from any Army system (HQDA, 2013).

<sup>&</sup>lt;sup>7</sup> NECs are designated as "the information management and information technology manager on Army posts, camps, and stations, and is the single authority for providing common-user IT services" (HQDA, 2013, p.19)

two. The second instance pertained to the inclusion of information on Bloom's affective domain (e.g., Krathwohl, 2002). The third instance related to the inclusion of question development and sequencing strategies for the facilitators.

**Functionality feedback.** The majority of the feedback pertained to functionality and ease of use. As a result of the feedback more information, i.e. Select Action Verb (Type-in or select from dropdown list), was added to the home page to guide users on how to use the tool; action verb associated performance levels, i.e. C3 – Applying, and verb definitions were added to link instructional methods to verbs; a Clear function was added to enable users to quickly reset the homepage and a Print function was added to each section enabling users to print content.

#### Results

#### **Content of the Tool**

As stated previously, the instructional methods tool was designed to supplement, not replace, existing training developer tools. To that end, careful consideration was taken to develop the tool using accepted doctrinal terms and verbiage, and where differences occurred, crosswalks were developed or explanatory information was provided. The tool provides the training developers and facilitators with a framework that enables them to select an appropriate instructional method given student experience, class size, and expected level of performance.

The tool consists of three major sections – the instructional methods content, the reference tabs, and the Admin Log In tab. Each section is illustrated below.

**Instructional methods section.** The instructional methods section is the main functionality and capability of the tool. The content information provided in this section contains the aligned instructional methods based on the level of performance required for a group of Soldiers with an identified level of experience. Military exemplars are provided to illustrate how to incorporate the aligned instructional method(s) into a military context. Figures 9 and 10 and Appendix B illustrates the homepage of the instructional methods tool and an example of the instructional methods section content.

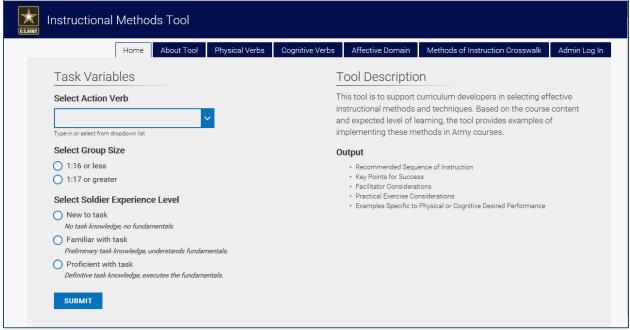


Figure 9. Example of the Instructional Methods Tool web-based application home page.

Instructional	Methods To	ol :				
) [				•	•	
•	Home About To	ol Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction	Crosswalk Admin Log
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
Task Varia	bles	Clear	Recommer	ded Methods and Seq	uence of Instruction	
Action Verb	•					
Calculate	•		Without pre			
Performance L	evel				xercise designed to have Sol ase study, or research possib	
C3 - Applying		•	missio	on outcomes.	:	:
		:	With pre-cla	ss work:		
Definition		•	Start v	vith a review of the home	vork and how it applies acros	s a range of contexts.
	cise of practical judgm	ent or mathematical	Choose the r	nethod of instruction base	ed on the "Time of Instruction	for the ELO.
processes.			Time of	Method of Instruction	<u>m</u>	
Group Size			Instruction			
1:16 or less			2 hours		ion or information, then prese	
1:17 or greate	r	-		information, then rev Or	iew of student's work as a gro	oup.
· ·					ver questions, then discuss as	a group; information
Experience				could be presented a	fter the group discussions	
New to task			4-8 hours		esentation or group discussion	
	ge, no fundamentals,	· · · · · · · · · · · · · · · · · · ·	· · · · <mark>· · · · · · · ·</mark>	students apply their l	nowledge to a novel context.	•••••••••••••••••
Familiar with						· · · · · · · · · · · · · · · · · · ·
	knowledge, understand	is fundamentals.	Key Points	for Success		
Proficient with			Reyronits			
Dennitive task kr	nowledge, executes the	Tundamentals.	Facilitator	Considerations		· · · · · · · · · · · · · · · · · · ·
Other Verb	s at the sam	e Cognitive				
	s at the sam	e cognitive	Practical E	kercise Considerations	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Level		-	Sequence	of Instruction Example		
Åeeree	Debrief	Derferm			•	
Access Administer	Debrief Demonstrate	Perform Prepare	Just-in-Tim	e Information Exampl	es .	$\sim$
Annotate	Employ	Present	Declaused	Fadine Fuerrale		
Apply	Ensure	Process	Backwards	Fading Example		
Brief	Estimate	Produce	Memory Jo	oggers Examples		· · · · · · · · · · · · · · · · · · ·
Calculate	Facilitate	React	includy oc			
Challenge	Implement	Read			:	:
Change	Inform	Refine	:	:	:	:
Communicate	Interpret	Register				
Compute	Investigate	Report				
Conduct	. Lead	Request				
Confirm	Manage	Review				

Figure 10. Example of the instructional methods section.

**Reference tabs.** The reference tabs were included to provide information to the user on how to use the tool as well as doctrinal reference materials used throughout the tool (see Appendix B). The About Tool tab provides information on how to use the tool; the Physical and Cognitive Verb tabs provide information on action verbs and how they are categorized based on Army doctrine (TRADOC, 2012); the Affective Domain tab provides a hyperlink to the Training and Education Developer Toolbox<sup>8</sup> where more information can be found about the domain; and the Methods of Instruction Crosswalk Tab provides a table that crosswalks instructional methods used within the tool to the instructional methods listed in TRADOC PAM 350-70-14 (TRADOC, 2015). Figure 11 illustrates the information found on the Physical Verbs tab.

<sup>&</sup>lt;sup>8</sup> The Training and Education Developer Toolbox (TED-T) is designed and developed for training and education developers to promote efficient and effective learning product development. TED-T can be found at <a href="https://atn.army.mil/TreeViewCStab.aspx?loadTierID=2904&docID=35">https://atn.army.mil/TreeViewCStab.aspx?loadTierID=2904&docID=35</a>.

		nstruction	al Metł	nods Tool									
Dave \$ Psychomotor (Physical) Domain         Examples of activity or demonstration and evidence to be measured           Tweef         Pl. Initiation         Copy action of archer; observe and replicate         Watch teacher or trainer and repets taction, process or activity           P2. Manipulation         Reproduce activity from instruction or memory         Carry out task from written or veeles instruction         Carry out task from written or veeles instruction           P3. Precision         Execute astiritity in quok, month of veeles instruction or memory         Carry out task from written or veeles instruction or instruction able to demonstrate an activity to device methods to meet varying, novel requirements, instructive, effortises, unconscious mastery of activity and related skills at strategic level           P5. Naturalization         Veeb         Level         Level <t< th=""><th></th><th></th><th>Hom</th><th>e About Too</th><th>l Ph</th><th>ysical Verbs</th><th>Cognitive V</th><th>erbs Affec</th><th>ctive Domain</th><th>Methods</th><th>of Instructio</th><th>n Crosswalk</th><th>Admin Log In</th></t<>			Hom	e About Too	l Ph	ysical Verbs	Cognitive V	erbs Affec	ctive Domain	Methods	of Instructio	n Crosswalk	Admin Log In
Dave \$ Psychomotor (Physical) Domain         Examples of activity or demonstration and evidence to be measured           Tweef         Pl. Initiation         Copy action of archer; observe and replicate         Watch teacher or trainer and repets taction, process or activity           P2. Manipulation         Reproduce activity from instruction or memory         Carry out task from written or veeles instruction         Carry out task from written or veeles instruction           P3. Precision         Execute astiritity in quok, month of veeles instruction or memory         Carry out task from written or veeles instruction or instruction able to demonstrate an activity to device methods to meet varying, novel requirements, instructive, effortises, unconscious mastery of activity and related skills at strategic level           P5. Naturalization         Veeb         Level         Level <t< td=""><td></td><td>Physical</td><td>Verbs</td><td></td><td></td><td>•</td><td></td><td></td><td>•</td><td></td><td></td><td></td><td>•</td></t<>		Physical	Verbs			•			•				•
Category or level       Behavior descriptions       Examples of activity or demonstration and evidence to be measured         P1       Initiation       Copy action of another, observe and replicate       Watch feacher or trainer and repeat action, process or activity         P2       Manufulation       Reproduce activity from instruction or memory       Carry out task from written or vehicle instruction       Carry out task from written or vehicle instruction         P3       Parketsion       Execute astill relably, independent of help, activity in quick, instruction or instruction, able to demonstrate an activity to totel hereines       The form task or accitities to develop methods to meet varying, novel requirements instruction (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.         Verb       Level       Level       Verb<						:	:				:		
Tevel       Examples of activity of descriptions         P1       Initialize Dopy activity and accurate of their activity of construction or memory       Examples of activity of ministruction or memory         P2       Manualation       Reproduce activity from instruction or memory       Carry out task from written or vehal instruction         P3       Precision       Secode skill reliably, independent of heip, activity is quick, smooth, and accurate vehal instruction       Perform a task or activity with expertise and to high quality vithout assistance or instruction, able to demonstrate and activity to other learners         P4       Adapt and integrate expertise to satisfy a new context or task.       Releate and combine associated activities to develop methods to meet varying, novel requirements.         P5       Naturalization       Instruction (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.         Verb       Level       Verb       Level       Verb       Level       Verb       Level       P1       Level       P2       Relate       P3       Level       Verb       Level       P2       P2       Adjust       P3       Relate       P3       Level       Verb       Level       P2       Adjust       P3       Relate       P3       Relate       P3       Relate       P3       Relate       P3       Relate       P3       Relate       P3 <td>• • • • •</td> <td>Dave's Psyc</td> <td>homotor</td> <td>(Physical) Dor</td> <td>nain</td> <td></td> <td>• • • • •</td> <td></td> <td></td> <td></td> <td>•••••</td> <td></td> <td></td>	• • • • •	Dave's Psyc	homotor	(Physical) Dor	nain		• • • • •				•••••		
P2 Manpulation       Reproduce activity from instruction or memory       Carry out tak from vitre in versal instruction         P3 Precision       Exercise sell reliably, independent of help, activity is quick, smooth, and accurate       Carry out tak from vitre intervention       Perform a task or activity with experise and to high quality without assistance or instruction; able to demonstrate an activity ot other learners         P4 Articulation       Adapt and integrate experise to satisfy a new context or tak, and integrate experise of activity and related abilis at strategic of evels. Imitation (P1), Manipulation and Precision (P2/P3), and Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.         Yeb       Level       Verb       Level       Verb <t< td=""><td></td><td></td><td>Behavior de</td><td>escriptions</td><td></td><td>•</td><td>Example</td><td>s of activity or de</td><td>emonstration a</td><td>nd evidence to b</td><td>e measured</td><td></td><td></td></t<>			Behavior de	escriptions		•	Example	s of activity or de	emonstration a	nd evidence to b	e measured		
P3.Precision Execute skill reliably, independent of help, activity is quick, smooth, and accurate mooth, and accurate P4.Articulation Adapt and integrate expertise to satisfy a new context to task, instinctive, effortiess, unconscious mastery, of activity and instinctive, effortiess, unconscious mastery, of activity and instinctive, effortiess, unconscious mastery, of activity and related activities to feel activities to denote associated activities to denote associated activities to meet varying, novel requirements. P5.Naturalization P5.Naturalization P4. Tetool provides information and examples for three psychomotor levels: Imitation (P1), Manipulation and Precision (P2/P3), and Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization P3. Level Verb Verb Verb Verb Verb Verb Verb Verb											tivity		
P3-Precision       amoch, and accurate       to demonstrate an activity to other learners         P4 Articulation       Adapt an integrate experise to satisfy a new construct or task. P5.Naturalization       Relate and combine associated activities to develop methods to meet varying, novel requirements         P5.Naturalization       Initianctive, efforties, unconscious mastery of activity an related skills at strategic level       Define jim, approach and strategy for use of activities to meet strategic need         Verb       Level       Nore       Nore       Nore <td></td> <td>P2.Manipulation</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>·</td> <td></td> <td></td>		P2.Manipulation									·		
P4 Articulation       Adapt and integrate expertise to satisfy a new context or task instinctive, effortiess, unconscious mastery of activity and related skills at strategic level       Define aim, approach and strategy for use of activities to meet strategic ned instinctive, effortiess, unconscious mastery of activity and related skills at strategic level         The tool provides information and examples for three psychomotor levels: Imitation (P1), Manipulation and Precision (P2/P3), and Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.         Verb       Level       Verb       Level       Verb       Level       Verb       Level       Verb       Level       Verb       Level       Patrol       P3       Replace       P3         Adjust       P3       Deliver       P2       Evaluate       P3       Load       P4       Patrol       P3       Replace       P3       Restrate       P2         Assault       P4       Deploy       P3       Exchange       P2       Maintain       P3       Place       P3       Restrate       P2         Assault       P4       Devlop       P4       Extend       P2       Maintain       P3       Place       P3       Restrate       P2         Assault       P4       Devlop       P4       Extend       P2       Maints       P1       Maint		P3.Precision			ent of help	o, activity is quick,					ty without ass	sistance or instru	iction; able
Instituctive effortiess, unconscious mastery of activity and related skills at strategic level       Define jum, approach and strategic for use of activities to mielt strategic need         The tool provides information and examples for three psychomotor levels: Imitation (P1), Manipulation and Precision (P2/P3), and Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalizzation (P5) level.         Verb       Level       Verb		D4 Articulation			to opticfu	a nów apotowi ar tao					Anda ta maat		huiromonto
PS.Naturalization related skills at strategic level       Define am, approach and strategy for use of activities to meet strategic need         Define am, approach and strategy for use of activities to meet strategic need         The tool provides information and examples for three psychomotor levels: Imitation (P1), Manipulation and Precision (P2/P3), and Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.         Verb       Level       Nerbination       Raison       P2       P3       Raison       P2	• • • • •		Instinctive										quirements
The tool provides information and examples for three psychomotor levels: Imitation (P1), Manipulation and Precision (P2/P3), and Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.verbLevelVerbLevelVerbLevelVerbLevelVerbLevelAdjustP3DeliverP2EvadeP3LoadP4PatrolP3ReplaceP3AlignP2DerionstrateP3EvaluateP3LoadP4PatrolP3RestoreP2AssambleP2DerionstrateP3ExchangeP2MaintainP3RestoreP2AssembleP2DesiroyP4ExtendP2MarkP1P1 fotP3RestoreP2AttackP4DevelopP4ExtractP3MeasureP2P2PositionP3SecureP2CamouflageP2DisissembleP1ForwardP2MonitorP3PreventP3StoreP2ClearP3DisconnectP1FileP2MonitorP3PreventP3StoreP2CollectP2DisipatchP1ImplementP2MonitorP3ProduceP3TrackP3CollectP3DispatchP1ImplementP2NavigateP3ProduceP3TowP2CollectP3DispatchP1ImplementP2NeveP2		P5.Naturalization					Define ai	m, approach and	strategy for us	e of activities to	meet strategi	c need	
Articulation (P4). The TRADOC Pamphlet did not assign any verbs at the Naturalization (P5) level.VerbLevelVerbLevelVerbLevelVerbLevelVerbLevelAdjustP3DeliverP2EvadeP3LoadP3PatrolP3ReplaceP3AlignP2DemonstrateP3EvaluateP3LubricateP1PerformP3RestoreP2AssaultP4DeployP3ExchangeP2MaintainP3PlaceP3RigitP2AssaultP4DevlopP4ExtendP2MarkP1P1PlaceP3RigitP2AttackP4DevlopP4ExtractP3MeasureP2PositionP3SecureP2BreachP4DirectP3FireP1ModifyP4PostP3StoreP2CarmouflageP2DisconnectP1ForwardP2MountP1PreventP3StoreP2ClearP3DispatchP2infiltrateP4NavigateP3ProduceP3TrackP3CollectP2DispatchP2infiltrateP4NevgitateP2ProduceP3TrackP3Comply,P2DispatchP2infiltrateP4NevgitateP2ProduceP3TrackP3ConfigureP2DisiP3		:					:		:				
Verb.LevelPatrolP3ReplaceP3ReplaceP3ReplaceP3RestoreP2AssaubleP4DeployP3ExchangeP2MarkP1P1P1P3RetrieveP2P2AttackP4DevelopP4ExtractP3MeasureP2P2P3SecureP2BreachP4DirectP3FireP1ModifyP4P3PostP3SecureP2ClearP3DisconnectP1ForwardP2MontorP3MereP3SecureP2CloseP3DisengageP4GuardP3MoveP2ProcessP3SubmitP1P1CompleteP3DispatchP2InitializeP1NeutralizeP3P2ProduceP3TransP3ConfigureP2DisplaceP3InitializeP1NeutralizeP2P2NeutralizeP3TransP3TransP3											n and Pre	cision (P2/P	3), and
AdjustP3DeliverP2EvadeP3LoadP1PatrolP3ReplaceP3AlignP2DemonstrateP3EvaluateP3LubricateP1PerformP3RestoreP2AssembleP4DeployP3ExchangeP2MaintainP3PlaceP3RetrieveP2AssembleP2DestroyP4ExtendP2MarkP1PlotP3RigP2AttackP4DevelopP4ExtractP3MessureP2PositionP3SecureP2BreachP4DirectP3FireP1ModifyP4PostP3SecureP2ClearP3DisconnectP1ForwardP2MonitorP3PrepareP3StoreP2CloseP3DisconnectP1FuelP2MountP1PreventP3StoreP2CloseP3DisengageP4GuardP3MoveP2ProcessP3TrackP3CollectP2DismantleP1ImplementP2NavigateP3ProduceP3TrackP3ConfigureP2DisplatchP1InputP2NeutralizeP2ProvideP3TrankP1ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1Configur		Anticulation	(F4). The	TRADUC Pall	ipnieru	iu not assign a	ily verbs	at the Natur		J) level.			
AdjustP3DeliverP2EvadeP3LoadP4PatrolP3ReplaceP3AlignP2DemonstrateP3EvaluateP3LubricateP1PetrormP3RestoreP2AssaultP4DeployP3ExchangeP2MaintainP3PlaceP3RetrieveP2AssembleP2DestroyP4ExtendP2MarkP1PlotP3RigP2AttackP4DevelopP4ExtractP3MessureP2PositionP3SecureP2BreachP4DirectP3FireP1ModifyP4PostP3SetureP2CamoufageP2DisonnectP1ForwardP2MonitorP3PrepareP3StoreP2ClearP3DisonnectP1FuelP2MonitorP3PreventP3StoreP2CloseP3DisonnectP1FuelP2MoveP2ProcessP3TowP2CloseP3DispatchP1ImplementP2NavigateP3ProduceP3TrackP3CompleteP3DispatchP1InputP2NewP2ProvideP3TrankP1ConfigureP2DoiP1InputP2NewP2PublishP3TrankP3ConfigureP2D		Mark.	Laural		Laural	· ·	Laurel	Mark	t sout	Mark	Laural	Made	Laval
AlignP2DemonstrateP3EvaluateP3LubricateP1PerformP3RestoreP2AssaultP4DeployP3ExchangeP2MaintainP3PlaceP3RetrieveP2AssembleP2DestroyP4ExtendP2MarkP1PlotP3RigP2AttackP4DevelopP4ExtractP3MeesureP2P2DestroyP4ExtractBreachP4DirectP3FireP1ModifyP4PostP3SeudP1CamouflageP2DisassembleP1ForwardP2MontorP3PrepareP3StoreP2CloseP3DisconnectP1FuelP2MontorP3PrepareP3SubmitP1CloseP3DisengageP4GuardP3MoveP2ProcessP3StoreP2ConpleteP3DispatchP2InfilitateP4NegotiateP2ProtectP3TrackP3ConfigureP2DisflaceP3IntializeP1InpertP3Net/yP3RecoveP1TransportP2ConfigureP2DoiP1InpactP3NotifyP3RecoveP1TransportP2ConfigureP3EmployP3IntegrateP4ObserveP3RecoveP2Tranh													
AssaultP4DeployP3ExchangeP2MaintainP3PlaceP3RetrieveP2AssembleP2DestroyP4ExtendP2MarkP1PlotP3RigP2AttackP4DevelopP4ExtractP3MeasureP2PositionP3SecureP2BreachP4DirectP3FireP1ModifyP4PostP3SecureP2CamouflageP2DisassembleP1ForwardP2MonitorP3PrepareP3StoreP2ClearP3DisconnectP1FuelP2MountP1PreventP3StoreP2CloseP3DisengageP4GuardP3MoveP2ProcessP3TrackP3CollectP2DisplaceP3InitilizeP1NeutralizeP2ProvideP3TrackP3CompleteP3DisplaceP3InitializeP1NeutralizeP2ProvideP3TrankP3ConfigureP2DishibuteP1InspectP3NotifyP3RecoveP1TransportP2ControlP3EnderP3IntegrateP4ObserveP1RecoveP3TranP3ConfigureP3EnderP3IntegrateP4ObserveP3RecoveP2TransportP2 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>													
AssembleP2DestroyP4ExtendP2MarkP1PlotP3RigP2AttackP4DevelopP4ExtractP3MeasureP2PositionP3SecureP2BreachP4DirectP3FireP1ModifyP4PostP3SecureP2CamouflageP2DisassembleP1ForwardP2MonitorP3PrepareP3SecureP2ClearP3DisconnectP1FuelP2MountP1PreventP3StoreP2CloseP3DisconnectP1ImplementP2NavigateP3ProcessP3SubmitP1CollectP2DisantaleP1ImplementP2NavigateP3ProduceP3TravP3CompleteP3DispatchP1InputP2NewP2ProvideP3TrainP3ConfigureP2DisibiliteP1InputP2NewP2PublishP3TrainP3ConstructP2DoiP1InspectP3NotifyP3RecoverP2TroubleshootP3ControlP3EmplaceP3IntegrateP4ObserveP1RefueP2TrainP2ControlP3EmplayP3IntegrateP4ObtainP3RefueP2TroubleshootP3													
AttackP4DevelopP4ExtractP3MeasureP2PositionP3SecureP2BreachP4DirectP3FireP1ModifyP4PostP3Set upP1CamouflageP2DisassembleP1ForwardP2MonitorP3PrepareP3Set upP2ClearP3DisconnectP1FuelP2MountP1PreventP3StoreP2CloseP3DisconnectP1ImplementP2NavigateP3ProcessP3SubmitP1CollectP2DisgatchP2InfiltrateP4NegotiateP2ProcessP3TrackP3CompleteP3DispatchP2InfiltrateP4NegotiateP2ProduceP3TrainP3ConfigureP2DistributeP1InputP2NewP2ProduceP3TransmitP1ConnectP2DoriP1InspectP3NotifyP3ReceiveP1TransportP2ControlP3EmployP3IntegrateP4ObserveP3ReduceP2TrumP2ControlP3EmployP3IntegrateP4ObtainP3ReduceP2TrumP2ControlP3EmployP3IntegrateP4ObtainP3ReduceP2TrumP2 <td></td>													
BreachP4DirectP3FireP1ModifyP4PostP3SendP1CamouflageP2DisassembleP1ForwardP2MonitorP3PrepareP3Set upP2ClearP3DisongaeP1FuelP2MonitorP1PreventP3StoreP2ClearP3DisongaeP4GuardP3MoveP2ProcessP3StoreP2ColectP2DismantleP1ImplementP2NavigateP3ProduceP3TrackP3CompleteP3DispatchP2InfiliateP1NeutralizeP2ProtectP3TrackP3CompleteP3DispatchP1InputP2NewP2ProduceP3TransmitP1ConfigureP2DisplaceP3InitializeP1NeutralizeP2ProduceP3TransmitP1ConnectP2DoinP1InputP2NewP2PublishP3TransmitP1ConnectP2DoinP1InspectP3NotifyP3RecoveP1TransportP2ControlP3EmployP3IntegrateP4ObserveP1RecordP2TrumP2ControlP3EmplaceP3InventoryP2OccupyP3ReduceP2TrumP2C			P4		P4			Measure		Position	P3		P2
Clear.P3DisconnectP1FuelP2MountP1PreventP3StoreP2CloseP3DisengageP4GuardP3MoveP2ProcessP3SubmitP1CollectP2DismantleP1ImplementP2NavigateP3ProduceP3TowP2CompleteP3DispatchP2InfiltrateP4NegotiateP2ProduceP3TrackP3ComplyP2DisplaceP3InitializeP1NeutralizeP2ProvideP3TrainP3ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1ConstructP2DoriP1InspectP3NotifyP3ReceiveP1TransportP2ControlP3EmplaceP3IntegrateP4ObserveP3ReduceP2TroubleshootP3CoordinateP4EnforceP3InventoryP2OccupyP3ReduceP2TurnP2CorrectP3EnterP1LandP4OperateP3RelocateP2WearP1CounterP3EnterP1LandP4OrderP3RelocateP2WearP1ConstaminateP3EscottP2LandP3OrderP3RelocateP2WearP1		Breach	P4		P3	Fire	P1	Modify	P4	Post	P3	Send	P1
CloseP3DisengageP4GuardP3MoveP2ProcessP3SubmitP1CollectP2DispantleP1ImplementP2NavigateP3ProcessP3TowP2CompleteP3DispatchP2InfiltrateP4NegotiateP2ProtectP3TowP2CompleteP3DispatchP2InfiltrateP4NegotiateP2ProtectP3TrackP3ComplyP2DisplaceP3InitializeP1NeutralizeP2ProvideP3TrainP3ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1ConnectP2DonP1InspectP3NotifyP3ReceiveP1TransportP2ControlP3EmployP3IntegrateP4ObserveP3ReduceP2TrumP2ControlP3EngageP4IssueP1OpenP3ReduceP2TurmP2CoordinateP4EngageP4IssueP1OpenP3ReloceP2TurmP2CourterP3EnterP1LandP4OrderP3RelocateP2VearP1CourterP3ErectP2LaunchP4OrderP3RelocateP2VearP1Cost<		Camouflage	P2	Disassemble	P1	Forward	P2 ·	Monitor	P3	Prepare	- P3	Set up	P2
CloseP3DisengageP4GuardP3MoveP2ProcessP3SubmitP1CollectP2DismantleP1ImplementP2NavigateP3ProcessP3TowP2CompleteP3DispatchP2InfiltrateP4NegotiateP2ProtectP3TowP2CompleteP2DisplaceP3InitializeP1NeutralizeP2ProtectP3TrainP3ConfigureP2DisplaceP3InitializeP1NeutralizeP2ProvideP3TrainP3ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1ConnectP2DonP1InspectP3NotifyP3ReceiveP1TransportP2ControlP3EmployP3IntegrateP4ObserveP3ReduceP2TrumP2ControlP3EmployP3IntegrateP4ObtainP3RecoverP2TrumP2CorrectP3EnterP3InventoryP2OccupyP3RefueP3UnloadP1CourterP3EnterP1LandP4OperateP3ReleaseP2WearP1CourterP3ErectP2LaunchP4OrderP3RelocateP2VearP1 <tr< td=""><td></td><td>Clear</td><td>P3</td><td>Disconnect</td><td>P1</td><td>Fuel</td><td>P2</td><td>Mount</td><td>P1</td><td>Prevent</td><td>P3</td><td>Store</td><td>P2</td></tr<>		Clear	P3	Disconnect	P1	Fuel	P2	Mount	P1	Prevent	P3	Store	P2
CompleteP3DispatchP2InfiltrateP4NegotiateP2ProtectP3TrackP3ComplyP2DisplaceP3InitializeP1NeutralizeP2ProvideP3TrainP3ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1ConneciP2DoriP1InspectP3NotifyP3ReceiveP1TransmitP1ConstructP2EmplaceP3InstallP3ObserveP1RecoverP2TreatP3ControlP3EmplayP3IntegrateP4ObtainP3RecoverP2TroubleshootP3ControlP3EmplayP3IntegrateP4ObtainP3RecoverP2TurnP2ControlP3EmplayP3IntegrateP4ObtainP3RecoverP2TurnP2CordinateP4EnforceP3IntegrateP4ObtainP3ReforeP3UnloadP1CorrectP3EnfageP4IssueP1OpenateP3ReleaseP2WearP1CounterP3EnterP1LandP4OrderP3RelocateP2VearP1CrossP3EscortP2LayP3OrientP2RemoveP2LayP3Pack		Close	P3	Disengage		Guard	P3	Move	P2	Process	P3	Submit	P1
ComplyP2DisplaceP3InitializeP1NeutralizeP2ProvideP3TrainP3ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1ConnectP2DonP1InspectP3NotifyP3RaceiveP1TransportP2ConstructP2EmplaceP3InstallP3ObserveP3RecordP2TratP3ControlP3EmplayP3IntegrateP4ObserveP3RecordP2TratP3CoordinateP4EnforceP3IntegrateP4ObtainP3RecordP2TrunP2CoordinateP4EnforceP3InventoryP2OccupyP3RefineP3UnloadP1CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2EnterP1DecontaminateP3EscortP2LayP3OrientP2RemoveP2EnterEnterEnterP3EnterP3EnterP4OrderP3RelocateP2EnterP4DecontaminateP3EscortP2LayP3OrientP2RemoveP2EnterEnterEnterP3 <t< td=""><td></td><td>Collect</td><td>P2</td><td>Dismantle</td><td>P1</td><td>Implement</td><td>P2 .</td><td>Navigate</td><td>P3</td><td>Produce</td><td>P3</td><td>Tow</td><td>P2</td></t<>		Collect	P2	Dismantle	P1	Implement	P2 .	Navigate	P3	Produce	P3	Tow	P2
ConfigureP2DistributeP1InputP2NewP2PublishP3TransmitP1ConnectP2DonP1InspectP3NotifyP3ReceiveP1TransportP2ConstructP2EmplaceP3InstallP3ObserveP1RecordP2TreatP3ControlP3EmplayP3IntegrateP4ObtainP3RecoverP2TroubleshootP3CoordinateP4EnforceP3InventoryP2OccupyP3ReduceP2TurnP2CorrectP3EngageP4IssueP1OperateP3ReleaseP2WearP1CounterP3ErectP2LaunchP4OrderP3RelocateP2VearP1CrossP3EscortP2LayP3OrientP2RemoveP2VearP1DefendP4EvaluateP3OrientP3ReloateP2VearP1DefendP4EvaluateP3OrientP2RemoveP2VearP1		Complete	P3	Dispatch	P2	<ul> <li>Infiltrate</li> </ul>	P4 ·	Negotiate	P2	Protect	· P3	Track	- P3
ConnectP2DonP1InspectP3NotifyP3ReceiveP1TransportP2ConstructP2EmplaceP3InstallP3ObserveP1RecordP2TreatP3ControlP3EmployP3IntegrateP4ObtainP3RecoverP2TroubleshootP3CoordinateP4EnforceP3InventoryP2OccupyP3ReduceP2TurnP2CorrectP3EngageP4IssueP1OpenP3RefineP3UnloadP1CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2EnterP1DecontaminateP3EscortP2LayP3OrientP2RemoveP2EnderP3DefendP4EvacuateP3PackP1RepairP3EnderP3Ender		Comply	P2	Displace	P3	Initialize	P1	Neutralize	P2	Provide	P3	Train	P3
ConstructP2EmplaceP3InstallP3ObserveP1RecordP2TreatP3ControlP3EmplayP3IntegrateP4ObtainP3RecoverP2TreatP3CoordinateP4EnforceP3InvertoryP2OccupyP3ReduceP2TumP2CorrectP3EngageP4IssueP1OpenP3RefineP3UnloadP1CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2P3DecontaminateP3EscortP2LayP3OrientP2RemoveP2DefendP4EvacuateP3LeadP3PackP1RepairP3		Configure	P2	Distribute	P1	·Input	P2 ·	New		Publish		Transmit	
ControlP3EmployP3IntegrateP4ObtainP3RecoverP2TroubleshootP3CoordinateP4EnforceP3InventoryP2OccupyP3ReduceP2TurnP2CorrectP3EngageP4IssueP1OpenP3RefineP3UnloadP1CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2DecontaminateP3EscortP2LayP3OrientP2RemoveP2DefendP4EvacuateP3LeadP3PackP1RepairP3		Connect		Don		Inspect		Notify		Receive		Transport	
CoordinateP4EnforceP3InventoryP2OccupyP3ReduceP2TurnP2CorrectP3EnfageP4IssueP1OpenP3RefineP3UnloadP1CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2WearP1DecontaminateP3EscortP2LayP3OrientP2RemoveP2P2DefendP4EvacuateP3LeadP3PackP1RepairP3		Construct				<ul> <li>Install</li> </ul>		Observe		Record		Treat	
CorrectP3EngageP4IssueP1OpenP3RefineP3UnloadP1CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2DecontaminateP3EscortP2LayP3OrientP2RemoveP2DefendP4EvacuateP3LeadP3PackP1RepairP3													
CounterP3EnterP1LandP4OperateP3ReleaseP2WearP1CrossP3ErectP2LaunchP4OrderP3RelocateP2DecontaminateP3EscortP2LayP3OrientP2RemoveP2DefendP4EvacuateP3LayP3PackP1RepairP3													
CrossP3ErectP2LaunchP4OrderP3RelocateP2DecontaminateP3EscortP2LayP3OrientP2RemoveP2DefendP4EvacuateP3LeadP3PackP1RepairP3													
Decontaminate     P3     Escort     P2     Lay     P3     Orient     P2     Remove     P2       Defend     P4     Evacuate     P3     Lead     P3     Pack     P1     Repair     P3												wear	PI
Defend P4 Evacuate P3 Lead P3 Pack P1 Repair P3													
		Derend	P4	Evacuate	P0	read	P3 .	Fack	PI	Nepair	. Po		
		Patriaural from h	tto://www.d	ump.adu/ucca/acu	occmont/	/ranauraan html	:						

Figure 11. Example of the Physical Verb Tab.

Admin Log In tab. The administrator log in tab provides the flexibility required to ensure relevance over time. Functionality provides an administrator with the capability to add verbs, and delete or edit existing verbs. Programming logic provides the link between changes made and instructional methods displayed. Figure 12 illustrates the Admin Log In/Editor homepage.

	nal Methods T	ool				
Но	ome About Tool	Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Editor Log Out
			Edit	Verb		
	Verb				🗙 Delete	
	Access					
	Physical				ADD	
	Cognitive				×	
	Level		2			
	Definition	1		ion, liberty, or ability to en	ter, approach,	
			communicate wi	th, or pass to and from.		
					ADD	
					AUD	
		CANCEL			SAVE	

Figure 12. Example of the Admin Log In/Editor Tab.

### Accessibility of the Instructional Methods Tool

The instructional methods tool was developed to be deployed on an Army .mil website (http://www.benning.army.mil/mcoe/ARIFB/recent.htm) and be accessible to training developers, staff and faculty personnel, and facilitators using government computers with CACs. Care was taken to ensure backwards compatibility with older web browsers.

#### Conclusions

The purpose of the Instructional Methods Tool was to provide training developers, staff and faculty personnel, and facilitators/instructors with effective instructional methods depending on the unique characteristics of the particular courses with which they are working. The aim of the tool was to supplement the Army Learning Model by demonstrating that a range of methods are both appropriate and effective to achieve different learning levels – both psychomotor and cognitive. The tool branches users to these different methods based on their inputs regarding the student characteristics, training content, and class sizes.

One limitation of the tool is that the methods are linked to the list of verbs provided in Army doctrine TRADOC PAM 350-70-14 (TRADOC, 2015). The objective of using this list of verbs was to ensure a tighter linkage between the instructional methods and learning levels. However, the list may too narrowly define the types of tasks and content that training developers, staff and faculty personnel, and facilitators/instructors are working with in their lesson plans. That is, to achieve the purpose of a lesson plan, a developer or facilitator likely needs to employ a range of verbs, actions, tasks, and events. By narrowing the user's selection to only one verb, the user may have difficulty in generalizing the tool's outputs to the entire lesson.

One way to offset this limitation is to view the tool's findings by learning level. That is, instead of thinking of the results as linked to only one verb, consider the results as pertaining to the particular psychomotor or cognitive learning level that is desired. All of the verbs and their associated levels are found in the tabs at the top of the tool, and all verbs associated with a particular level branch the user to the same information. So, although the user inputs a single verb, the content of the tool is based on the learning level for either psychomotor or cognitive skills. Because of the web-based nature of the tool, future work could modify the structure of the inputs to the tool so that the user would be required to only insert the learning level for the type of skill (psychomotor or cognitive) and avoid having to select individual verbs.

By including examples of Army courseware linked to the appropriate learning level and type of skill, users have a better understanding of how to employ the recommended instructional methods in their lessons. Also, by viewing the cross-walk of the methods indicated in the tool with the broader categories of methods specified in Army doctrine (Appendix B), the users will have a better understanding of the variety of effective ways in which the doctrinal methods can be employed to meet the specific requirements of their lessons and classes.

#### References

- Alfieri, L., Brooks, P. J., Aldrich, N. J., & Tenenbaum, H. R. (2011). Does discovery-based instruction enhance learning? *Journal of Educational Psychology*, *103*, 1-18.
- Anderson, J. R., Fincham, J. M., & Douglass, S. (1997). The role of examples and rules in the acquisition of a cognitive skill. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 23*, 932-945.
- Dochy, F., Segers, M., Van den Bossche, P., & Gijbels, D. (2003). Effects of Problem-Based Learning: A Meta-Analysis. *Learning And Instruction*, *13*(5), 533-68.
- Dyer, J. L., Singh, H., & Clark, T.L. (2005). Computer-based approaches for training interactive digital map displays. (ARI Research Report 1842) Arlington, VA. U.S. Army Research Institute for the Behavioral and Social Sciences. (DTIC No. ADA 440 171)
- Haydon, T., Mancil, G. R., Kroeger, S. D., McLeskey, J., & Lin, W. Y. J. (2011). A review of the effectiveness of guided notes for students who struggle learning academic content. *Preventing School Failure: Alternative Education for Children and Youth*, 55(4), 226-231.
- Headquarters, Department of the Army (2009). *Information Management: Information Assurance* (Department of the Army Regulation 25-2). Washington, D.C.: Author.
- Headquarters, Department of the Army (2013). *Information Management: Army Information Technology* (Department of the Army Regulation 25-1). Washington, D.C.: Author.
- Headquarters, Department of the Army (2014). *Information Management: Management of Subdisciplines: Army Information Technology Implementation Instructions* (Department of the Army Pamphlet 25-1-1). Washington, D.C.: Author.
- Headquarters, Department of the Army (2016). U.S. Army Formal Schools Catalog (Department of the Army Pamphlet 351-4). Washington, D.C.: Author.
- Headquarters, U.S. Army Training and Doctrine Command (2010). *The Army School System* (TRADOC Regulation 350-18). Fort Monroe, VA.: Author.
- Headquarters, U.S. Army Training and Doctrine Command (2011). The U.S. Army Learning Concept for 2015. TRADOC Pamphlet 525-8-2. Department of the Army, Ft Monroe, VA.: Author.
- Headquarters, U.S. Army Training and Doctrine Command (2012). *Training development in support of the operational domain* (TRADOC Pamphlet 350-70-1). Fort Eustis, VA.: Author.

- Headquarters, U.S. Army Training and Doctrine Command (2015). *Training and education development in support of the institutional domain* (TRADOC Pamphlet 350-70-14). Fort Eustis, VA.: Author.
- Headquarters, U.S. Army Training and Doctrine Command (2017). U.S. Army Learning Concept for Training and Education (TRADOC Pamphlet 525-8-2). Fort Eustis, VA: Author.
- Hemlo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and achievement in problem-based and inquiry learning: A response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist*, 42, 99-107.
- Hockey, G. R. J., Sauer, J., & Wastell, D. G. (2007). Adaptability of training in simulated process control: Knowledge- versus rule-based guidance under task changes and environmental stress. *Human Factors*, 49, 158-174.
- Hoffman, R., & Feltovich, P. (2010). Accelerated proficiency and facilitated retention: Recommendations based on an integration of research and findings from a working meeting. (Technical Report 2011-0001). Pensacola FL: Florida Institute for Human and Machine Cognition. (DTIC No. ADA 536-308)
- Huba, M. E., & Freed, J. E. (2000). *Learner-centered assessment on college campuses*. Boston: Allyn and Bacon.
- Huitt, W. (2003). The psychomotor domain. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved 2 Jun 17, from <u>http://www.edpsycinteractive.org/topics/behavior/psymtr.html</u>
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41*, 75-86.
- Kalaian, S. A., & Kasim, R. M. (2014). A Meta-Analytic Review of Studies of the Effectiveness of Small-Group Learning Methods on Statistics Achievement. *Journal of Statistics Education*, 22 (1), 1-20.
- Klahr, D., & Nigam, M. (2004). The equivalence of learning paths in early science instruction: Effects of direct instruction and discovery learning. *Psychological Science*, 15,661-667.
- Kozlowski, S. W. J., & DeShon, R. P. (2005). Enhancing learning, performance, and adaptability for complex tasks. (Technical Report 05-0183). Arlington, VA: Air Force Office of Scientific Research. (DTIC No. ADA 433 264)
- Krathwohl, D. R. (2002). A revision of Bloom's Taxonomy: An overview. *Theory Into Practice*, *41*, 212-218.

- Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E., & Dochy, F. (2013). A metaanalysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review*, *10*, 133-149.
- Magliaro, S. G., Lockee, B. B., & Burton, J. K. (2005). Direct instruction revisited: A key model for instructional technology. *ETR&D*, *53*, 41-55.
- Matlen, B. J., & Klahr, D., (2013). Sequential effects of high and low instructional guidance on children's acquisition of experimentation skills: Is it all in the timing? *Instructional Science*, *41*, 621-634.
- Merrill, M. D. (2002). First principles of instruction. *Educational Technology Research and Development*, *50*(*3*), 43-59.
- Merrill, M. D. (2006). Hypothesized performance on complex tasks as a function of scaled instructional strategies. In J. Elen & D.E. Clark (Eds.), *Handling complexity in learning environments: Theory and research (Advances in learning and instruction* (pp. 265-281).Oxford: Elsevier.
- Montague, W. E., & Knirk, F. G. (1993). What works in adult instruction: The management, design, and delivery of instruction. (Navy Personnel Research and Development Center Report, NPRDC-TR-93-6). San Diego, CA: Navy Personnel Research and Development Center.
- Ning, H. K., & Downing, K. (2012). Influence of student learning experience on academic performance: The mediator and moderator effects of self-regulation and motivation. *British Educational Research Journal*, 38, 219-237.
- Proctor, R. W., & Dutta, A. (1995). Skill acquisition and human performance. Thousand Oaks, CA: Sage.
- Resnick, L. B. (2010). Nested learning systems for the thinking curriculum. *Educational Researcher*, *39*, 183-197.
- Rosen, M. A., Salas, E., Pavlas, D., Jensen, R., Fu, D., & Lampton, D. (2010). Demonstrationbased training: A review of instructional features. *Human Factors*, 52, 596-609.
- Schaefer, P. S. & Dyer, J. L. (2013). Defining tailored training approaches for Army institutional training (RR 1965). Ft. Belvoir, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (DTIC No.ADA 578 565)
- Schaefer, P. S., Irvin, C. R., Blankenbeckler, P. N., & Brogdon, J. C. (2013). Backwards fading to speed task learning. (ARI Research Report 1968). Fort Belvoir, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

- Schwartz, D. L., & Arena, D. (2013). *Measuring what matters most*. Cambridge, MA: The MIT Press.
- Schwartz, D. L, Chase, C. C., Oppezzo, M. A., & Chin, D. B. (2011). Practicing versus inventing with contrasting cases: The effects of telling first on learning and transfer. *Journal of Educational Psychology*, 103, pp. 759-775.
- Strand-Cary, M., & Klahr, D. (2008). Developing elementary science skills: Instructional effectiveness and path independence. *Cognitive Development*, 23, 488-511.
- Sweller, J., van Merrienboer, J. J. G., & Paas, F. G. W. C. (1998). Cognitive architecture and instructional design. *Educational Psychology Review*, *10*, 251-296.
- Tomcho, T. J., & Foels, R. (2012). Meta-Analysis of Group Learning Activities: Empirically Based Teaching Recommendations. *Teaching of Psychology*, *39*(3), 159-169.
- van Merriënboer, J. J. G., Kirschner, P. A., & Kester, L. (2003). Taking the load off a learner's mind: Instructional design for complex learning. *Educational Psychologist*, *38*, 5-13.
- Vogler, K. E. (2008). Asking Good Questions. *Educational Leadership*. 65. <u>http://www.ascd.org/publications/educationalleadership/summer08/vol65/num09/Asking-Good-Questions.aspx</u>
- Walker, A., & Leary, H. (2009). A problem-based learning meta-analysis: Differences across problem-types, implementation types, disciplines, and assessment levels. *Interdisciplinary Journal of Problem-based Learning*, 3, 12-43.
- Zbylut, M. L., Brunner, J. M., Vowels, C. L., & Kim, J. M. (2007). Case method instruction: 25 minutes of discussion can make a difference. (ARI Technical Report 1203). Fort Belvoir, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

# Acronyms and Abbreviations

ALM	Army Learning Model
ATN	Army Training Network
ATRRS	Army Training Requirements and Resources System
CAC	Common Access Card
CD-ROM	Compact Disk Read-Only Memory
CoEs	Centers of Excellence
CONUS	Continental United States
CMP	Course Management Plan
DA PAM	Department of the Army Pamphlet
DTMS	Digital Training Management System
HQDA	Headquarters Department of the Army
IIS	Internet Information Services
JROTC	Junior Reserve Officer Training Corps
MDMP	Military Decision Making Process
MOS	Military Occupational Specialty
NEC	Network Enterprise Center
NCO	Noncommissioned Officer
PE	Practical Exercise
POI	Program of Instruction
SMC	Sergeants Major Course
T&EO	Training and Evaluation Outline
TRADOC	Training and Doctrine Command
URL	Uniform Resource Locator
USB	Universal Serial Bus

# Appendix A

Instructional Methods Tool Feedback Questionnaire

### Instructional Methods Tool Feedback Questionnaire

Please provide your current duty position \_\_\_\_

The tool you are about to review was designed to provide facilitators and/or training developers with examples of different instructional methodologies for conducting task training – common individual tasks or collective tasks. The instructional methodologies are linked to the desired physical and cognitive outcome levels for the task as prescribed by the standard verbs contained in TRADOC Pamphlet 350-70-1 Appendix E (2012).

Please review the Tool for functionality and content then complete the questionnaire.

## General Questions

- 1. Is the explanation of the Instructional Methods Tool purpose clear?
  - a. \_\_\_\_\_ Yes No substantial changes needed
  - b. \_\_\_\_\_ Satisfactory but need improvement
  - c. \_\_\_\_ No, inadequate and should be revised

If you marked "b" or "c", what changes would you recommend?

- 2. In general is there sufficient information in the "Homepage" and "About Tool" tabs to enable a user to determine how to use the tool?
  - a. \_\_\_\_\_ Sufficient information
  - b. \_\_\_\_ Incomplete information
  - c. \_\_\_\_ Confusing information

If you marked "b" or "c", what changes would you recommend?

## **Functionality**

1. Did you encounter any functionality issues, i.e., No drop-down arrows, broken navigation, etc.?

a. \_\_\_\_ Yes

b. \_\_\_\_ No

If yes, what were the issues?

If Yes, what web browser and operating system are you using? Web browser (e.g. To find the browser version, left click on the gear icon IE 11) [upper right corner of webpage] and left click on "About Internet Explorer".

**\*\*** 

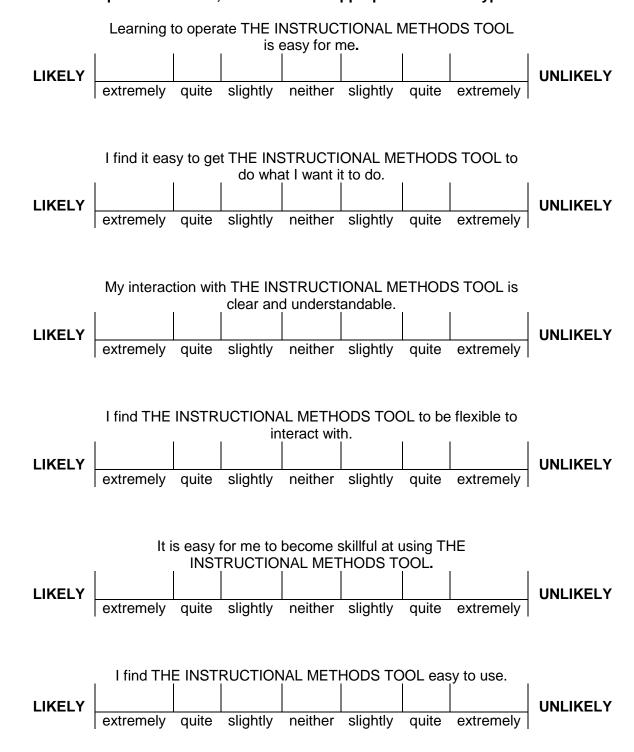
Operating System (e.g. Windows 7)

To find the operating system version, right click on the computer icon [on your desktop] and left click on "Properties".



- 2. Is there sufficient information provided to enable easy navigation?
  - a. \_\_\_\_\_ Sufficient information
  - b. \_\_\_\_ Incomplete information
  - c. \_\_\_\_ Confusing information

If you marked "b" or "c", what changes would you recommend?



To answer the questions below, left-click in the appropriate box and type an "X"

### **Content**

- 1. Overall, does the Instructional Methods Tool provide useful information for the facilitators and/or training developers?
  - a. \_\_\_\_ Yes No substantial changes needed
  - b. \_\_\_\_ Satisfactory but need improvement
  - c. \_\_\_\_ No, inadequate and should be revised

If you marked "b" or "c", what changes would you recommend?

- 2. Overall, does the Instructional Methods Tool provide meaningful information for the facilitators and/or training developers?
  - a. \_\_\_\_ Yes No substantial changes needed
  - b. \_\_\_\_\_ Satisfactory but need improvement
  - c. \_\_\_\_ No, inadequate and should be revised

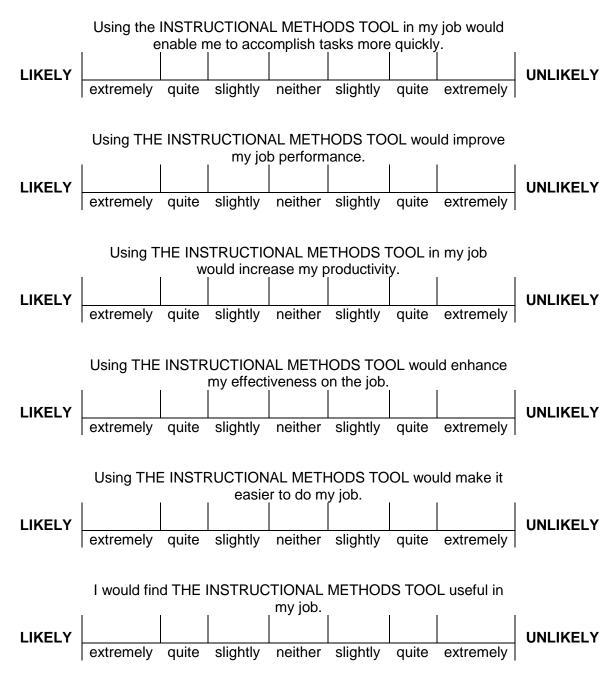
If you marked "b" or "c", what changes would you recommend?

- 3. Do the sample military examples provide sufficient information on how to incorporate an instructional method into a subject area?
  - a. \_\_\_\_\_ Sufficient information
  - b. \_\_\_\_ Incomplete information
  - c. \_\_\_\_ Confusing information

If you marked "b" or "c", what changes would you recommend?

If you are a facilitator or a training developer please complete the questions below. If you are not a facilitator or training developer, please complete the questions on the next page.

To answer the questions below, click in the appropriate box and type an "X"



4. Please provide any other comments not addressed in the general, functionality, or content questions above.

### Administrator Functions

If you were provided with the administrator User ID and password, please complete the questions below.

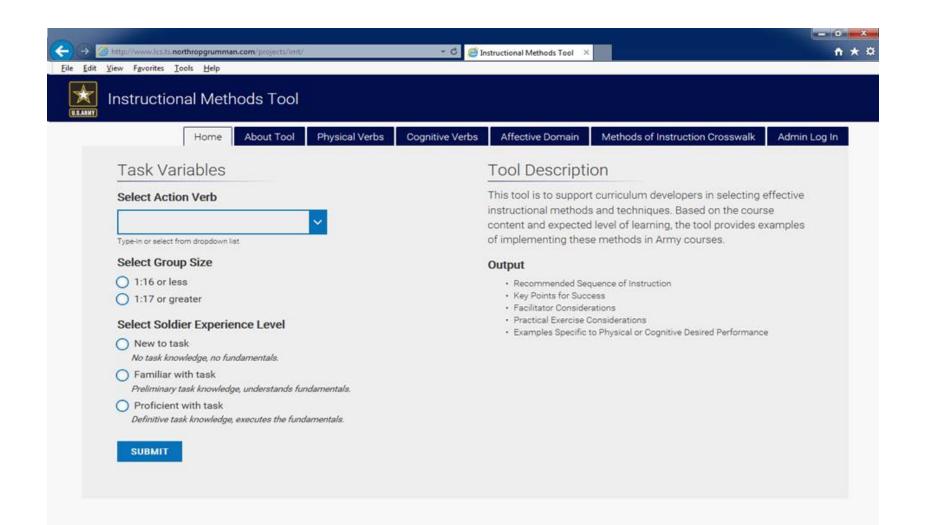
- 1. Does the administrator page provide sufficient information to determine how to modify the verb list?
  - a. \_\_\_\_\_ Sufficient information
  - b. \_\_\_\_ Incomplete information
  - c. \_\_\_\_ Confusing information

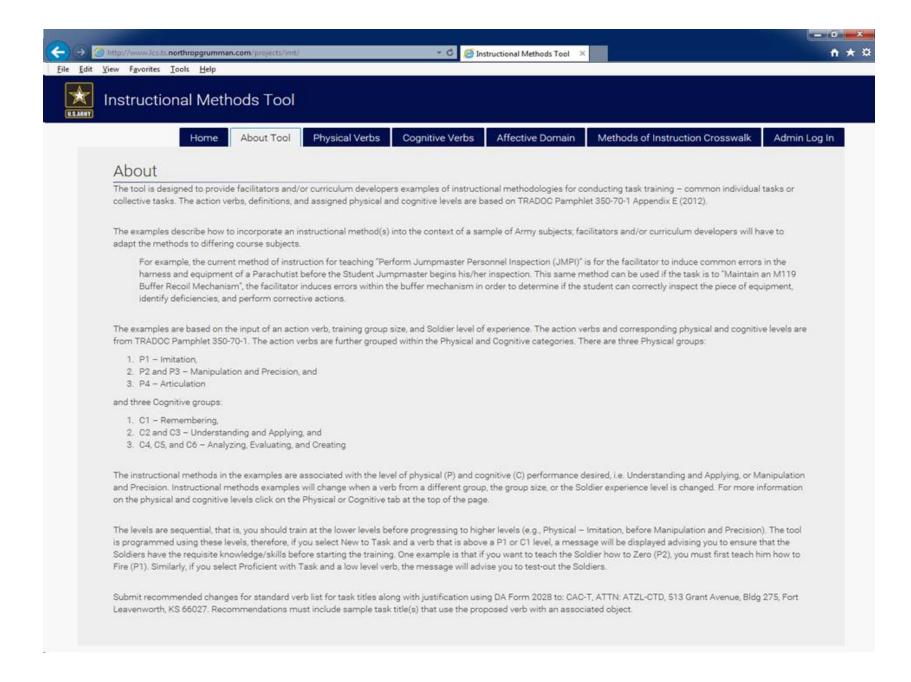
If you marked "b" or "c", what changes would you recommend?

2. What other administrator functions should be provided?

# Appendix B

Instructional Methods Tool Home Pages





		Home Abou	rt Tool								
	4	Home Abou	rt Tool								
			1001	Physical Verbs	Cognitiv	ve Verbs Aff	ective Doma	in Methods	of Instructi	on Crosswalk	Admin
Physical	Verhs										
		(Physical) Don	nin								
	chomotor	(Physical) Don	lain								
Category or 'level'	Behavior de	escriptions			Examples	of activity or dem	onstration an	d evidence to be m	easured		
P1.Imitation	n Reproduce	of another, observ activity from instruc	tion or mem	nory	Carry out	task from written (	or verbal instri				
P3.Precision	Execute ski smooth, an	Il reliably, independe d accurate	ent of help, a	ctivity is quick,		ate an activity will ate an activity to o		nd to high quality w	ithout assist	ance or instruction;	able to
P4.Articulation		ntegrate expertise t	o satisfy a n	ew context or task				to develop method	s to meet var	ying, novel requiren	nents
P5 Naturalizatio	Instinctive	effortless, unconsci	전에 상태 여기 친구가 가지?		ted			of activities to me			
	"skills at stra	ategic level					1000077000000000				
		ormation and e	xamples	for three psyc	nomotor l	evels: Imitatio	on (P1), Ma	nipulation an	d Precisio	n (P2/P3), and	1
		TRADOC Pam	phlet did			the Naturaliza		level.			
Verb	Level	TRADOC Pam	phlet did	not assign an	verbs at	the Naturaliz	Level	level.	Level	Verb	Level
Verb Adjust	Level	Verb Deliver	Level	Not assign an Verb Evade	verbs at	Verb	Level P1	Verb Patrol	Level P3	Verb Replace	Level P3
Verb Adjust Align	Level P3 P2	Verb Deliver Demonstrate	Level P2 P3	Verb Evade Evaluate	verbs at Level P3 P3	Verb Load Lubricate	Level P1 P1	Verb Patrol Perform	Level P3 P3	Verb Replace Restore	Level P3 P2
Verb Adjust Align Assault	Level P3 P2 P4	Verb Deliver Demonstrate Deploy	Level P2 P3 P3	Verb Evade Evaluate Exchange	Level P3 P3 P2	Verb Load Lubricate Maintain	Level P1 P1 P3	Verb Patrol Perform Place	Level P3 P3 P3	Verb Replace Restore Retrieve	Level P3 P2 P2
Verb Adjust Align Assault Assemble	Level P3 P2 P4 P2	Verb Deliver Demonstrate Deploy Destroy	Level P2 P3 P3 P4	Verb Verb Evade Evaluate Exchange Extend	Level P3 P3 P2 P2	Verb Load Lubricate Maintain Mark	Level P1 P1 P3 P1	Verb Patrol Perform Place Plot	Level P3 P3 P3 P3	Verb Replace Restore Retrieve Rig	Level P3 P2 P2 P2
Verb Adjust Align Assault Assemble Attack	Level P3 P2 P4 P2 P4 P2 P4	Verb Deliver Demonstrate Deploy Destroy Develop	Level P2 P3 P3 P4 P4	Verb Verb Evade Evaluate Exchange Extend Extract	Level P3 P3 P2 P2 P3 P3	Verb Load Lubricate Maintain Mark Measure	Level P1 P3 P1 P2	Verb Patrol Perform Place Plot Position	Level P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure	Level P3 P2 P2 P2 P2 P2
Verb Adjust Align Assault Assemble Attack Breach	Level P3 P2 P4 P2 P4 P2 P4 P4 P4	Verb Deliver Demonstrate Deploy Destroy Develop Direct	Level P2 P3 P3 P4 P4 P3	Verb Evade Evaluate Exchange Extend Extract Fire	verbs at Level P3 P3 P2 P2 P3 P1	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify	Level P1 P3 P1 P2 P4	Verb Patrol Perform Place Plot Position Post	Level P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send	Level P3 P2 P2 P2 P2 P2 P1
Verb Adjust Align Assault Assemble Attack Breach Camouflage	Level 93 92 94 92 94 94 94 94 94 92	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble	Level P2 P3 P4 P4 P3 P4 P3 P1	Verb Evade Evaluate Exchange Extend Extract Fire Forward	verbs at Level P3 P2 P2 P3 P1 P2 P3 P1 P2	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor	Level P1 P3 P1 P2 P4 P3	Verb Patrol Perform Place Plot Position Post Prepare	Level P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up	Level P3 P2 P2 P2 P2 P2 P1 P2
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear	Level P3 P2 P4 P2 P4 P4 P4 P4 P2 P3	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect	Level P2 P3 P4 P4 P3 P4 P3 P1 P1	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel	verbs at Level P3 P2 P2 P3 P1 P2 P2 P2 P2	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P4 P3 P1	Verb Patrol Perform Place Plot Position Post Prepare Prevent	Level P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store	Level P3 P2 P2 P2 P2 P1 P2 P2 P2
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close	Level P3 P2 P4 P4 P4 P4 P4 P2 P4 P3 P3 P3	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage	Phlet did Level P2 P3 P4 P4 P4 P1 P1 P4	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard	verbs at Level P3 P3 P2 P2 P3 P1 P2 P2 P3 P1 P2 P2 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P4 P3 P1 P2	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit	Level P3 P2 P2 P2 P1 P2 P1 P2 P2 P1
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Collect	Level P3 P2 P4 P4 P4 P4 P4 P3 P3 P3 P2	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage Dismantle	Phlet did Level P2 P3 P4 P4 P4 P1 P1 P4 P1 P1	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard Implement	verbs at Level P3 P2 P2 P3 P1 P2 P2 P2 P2	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move Navigate	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P1 P2 P3	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process Produce	Level P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow	Level P3 P2 P2 P2 P2 P1 P2 P2 P2
Verb Adjust Align Assault Assemble Attack Breach Camoufiage Clear Clear Close Collect Complete	Level P3 P2 P4 P4 P4 P4 P4 P2 P4 P3 P3 P3	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage	Phlet did Level P2 P3 P4 P4 P4 P1 P1 P4	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard	verbs at Level P3 P3 P2 P2 P3 P1 P2 P2 P3 P2 P3 P2 P2 P3 P2 P2 P3 P2 P3 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P4 P3 P1 P2	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit	Level P3 P2 P2 P2 P2 P1 P2 P1 P2 P1 P2 P1
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Collect	Level P3 P2 P4 P4 P4 P4 P3 P3 P3 P2 P3 P3	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage Dismantle Dispatch	phlet did Level P2 P3 P3 P4 P4 P3 P1 P1 P4 P1 P2	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard Implement Infiltrate	verbs at Level P3 P2 P2 P3 P1 P2 P3 P1 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P3 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move Navigate Negotiate	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P1 P2 P3 P2	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process Produce Protect	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow Track	Level P3 P2 P2 P2 P1 P2 P1 P2 P1 P2 P1 P2 P3
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Close Collect Complete Comply	Level P3 P2 P4 P4 P4 P4 P4 P2 P3 P3 P3 P3 P3 P2 P3 P2	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage Dismantle Dispatch Displace	phlet did Level P2 P3 P4 P4 P3 P1 P1 P1 P1 P2 P3 P3 P1 P2 P3	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard implement infiltrate Initialize	verbs at Level P3 P3 P2 P2 P3 P1 P2 P2 P3 P2 P3 P1 P2 P2 P3 P1 P2 P2 P3 P1 P2 P3 P1 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move Navigate Navigate Neutralize	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P1 P2 P3 P2 P2 P2 P2	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process Produce Protect Provide	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow Track Train	Level P3 P2 P2 P2 P1 P2 P1 P2 P1 P2 P3 P3
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Collect Complete Complete Comply Configure	Level P3 P2 P4 P4 P4 P4 P2 P3 P3 P3 P3 P3 P2 P3 P2 P2 P2 P2	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage Dismantle Dispatch Displace Distribute	phlet did Level P2 P3 P4 P4 P3 P1 P1 P4 P1 P2 P3 P1 P2 P3 P1 P2 P3 P1 P2 P3 P1 P1 P2 P3 P3 P3 P3 P3 P3 P3 P3 P4 P4 P3 P3 P3 P3 P4 P4 P3 P3 P3 P4 P4 P3 P3 P4 P4 P3 P3 P4 P4 P4 P4 P4 P4 P4 P4 P4 P4	Verb Evade Evaluate Exchange Extend Extend Extend Fire Forward Fuel Guard Implement Infiltrate Initialize Input	verbs at Level P3 P2 P2 P3 P1 P2 P3 P1 P2 P3 P2 P3 P1 P2 P3 P1 P2 P3 P2 P3 P2 P3 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move Navigate Negotiate Negotiate Neutralize New	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P1 P2 P3 P2 P2 P2 P2 P2	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process Produce Protect Provide Publish	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow Track Train Transmit	Level P3 P2 P2 P2 P2 P1 P2 P2 P1 P2 P3 P3 P3 P1
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Collect Complete Complete Comply Configure Connect	Level P3 P2 P4 P4 P4 P4 P4 P2 P3 P3 P3 P3 P2 P3 P2 P2 P2 P2 P2	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage Dismantle Displace Displace Distribute Don	phlet did Level P2 P3 P4 P4 P3 P1 P1 P4 P1 P2 P3 P1 P1 P1 P1 P1 P1 P1 P1 P1 P1	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard Implement Infiltrate Initialize Input Inspect	verbs at Level P3 P2 P2 P3 P1 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P3 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move Navigate Neutralize New Notify	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P2 P2 P2 P2 P2 P2 P2 P3	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process Produce Protect Provide Publish Receive	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow Track Train Transmit Transmit Transport	Level P3 P2 P2 P2 P1 P2 P1 P2 P1 P2 P3 P3 P1 P2
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Collect Complete Complete Configure Connect Connect Construct	Level P3 P2 P4 P2 P4 P2 P4 P2 P3 P3 P3 P2 P3 P2 P3 P2 P2 P2 P2 P2 P2 P2 P2 P2 P2	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disonnect Disengage Dismantle Dispatch Displace Distribute Don Emplace	phlet did Level P2 P3 P4 P4 P3 P1 P1 P4 P1 P2 P3 P1 P1 P3 P1 P3 P1 P3 P1 P3 P1 P3 P3 P3 P4 P3 P3 P4 P3 P3 P4 P3 P3 P4 P3 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P4 P3 P4 P4 P4 P4 P4 P4 P4 P4 P4 P4	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard Implement Infiltrate Initialize Input Inspect Install	verbs at Level P3 P2 P2 P3 P1 P2 P3 P2 P3 P2 P4 P1 P2 P3 P3 P2 P3 P3 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza Verb Load Lubricate Maintain Mark Measure Modify Monitor Mount Move Navigate Negotiate Neutralize New Notify Observe	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P2 P3 P2 P2 P2 P3 P1	Verb Patrol Perform Place Plot Position Post Prepare Prevent Process Produce Protect Provide Provide Publish Receive Record	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow Track Train Transmit Transmit Transport Treat	Level P3 P2 P2 P2 P1 P2 P1 P2 P3 P3 P1 P2 P3 P1 P2 P3
Verb Adjust Align Assault Assemble Attack Breach Camouflage Clear Close Collect Complete Complete Configure Configure Connect Construct Construct	Level P3 P2 P4 P2 P4 P2 P4 P2 P3 P3 P2 P3 P2 P3 P2 P2 P2 P2 P2 P2 P2 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P4 P3 P2 P4 P3 P2 P4 P3 P2 P4 P3 P3 P2 P4 P3 P3 P4 P3 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P4 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Deliver Demonstrate Deploy Destroy Develop Direct Disassemble Disconnect Disengage Dismantle Dispatch Displace Distribute Don Emplace Employ	phlet did Level P2 P3 P4 P4 P3 P1 P1 P4 P1 P2 P3 P1 P1 P2 P3 P1 P3 P1 P3 P3 P1 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Evade Evaluate Exchange Extend Extract Fire Forward Fuel Guard Implement Infiltrate Infiltrate Infiltrate Infiltrate Infiltrate Infiltrate Infiltrate Infiltrate Infiltrate	verbs at Level P3 P3 P2 P2 P3 P1 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	the Naturaliza	Level P1 P1 P3 P1 P2 P4 P3 P1 P2 P3 P2 P2 P3 P2 P2 P3 P2 P3 P1 P3 P1 P3	Verb Patrol Perform Place Plot Position Post Preyare Prevent Process Produce Protect Protect Provide Publish Receive Record Recover	Level P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3	Verb Replace Restore Retrieve Rig Secure Send Set up Store Submit Tow Track Train Transmit Transmit Transport Treat Troubleshoot	Level P3 P2 P2 P2 P2 P1 P2 P1 P2 P3 P3 P3 P3 P3 P3 P3 P3 P3 P3

Retrieved from http://www.d.umn.edu/vcaa/assessment/resources.html

Evacuate

P2

P2

P3

Launch

Lay

Lead

P3 Erect

Decontaminate P3 Escort

P4

Cross

Defend

**B-4** 

P4

P3

P3

Order

Orient

Pack

P3

P2

P1

Relocate

Remove

Repair

P2

P2

P3

~

	Home	About Tool	Physical Ver	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo
Cognitiv	e Verbs						
Bloom's Ta	xonomy – Cogniti	ve Domain					
C1.Rememberir	el'Behavior descriptions ng Recall or recognize int Understand meaning, ng interpret, extrapolate,	formation	e's own words,		t facts or statistics, recall a g from a given scenario or	o be measured a process, rules, definitions; quote law or pro statement, suggest treatment, reaction or so	
C3 Applying	Use or apply knowled knowledge in respons	ge, put theory into e to real circumsta	practice, use inces	-		problem, manage an activity	
C4.Analyzing	Interpret elements, on construction, internal individual component:	relationships; qual	ity reliability of		na na kana kana kana kana kana kana kan	r concept, or de-construct a methodology or hips, values and effects; measure requiremen	
C5.Evaluating	Assess effectiveness values, outputs, effica strategic comparison external criteria	cy, viability; critical	l thinking, ent relating to	practicability; assess sustai	nability, perform a SWOT a n or venture, calculate the	return on investment or cost-effectiveness, inalysis in relation to alternatives; produce a effects of a plan or strategy; perform a detai	
C6.Creating	Develop new unique s approaches, ideas; cre			Develop plans or procedure approaches, write protocols		te methods, resources, ideas, parts; create ti	eams or new

Verb	Level	Verb	Level	Verb	Level	Verb	Level	Verb	Level	Verb	Level
Access	C2	Compute	C3	Determine	C5	Interpret	02	Process	C3	Review	C2
Administer	03	Conduct	C3	Develop	C6	Investigate	C2	Produce	C3		C5
Analyze	C4	Confirm	C2	Direct	C5	Lead	C3	Project	C6	Revise	C6
Annotate	C2	Consolidate	C6	Download	C1	Localize	C4	React	C3	Schedule	C6
Apply	03	Control	C3	Draft	C4	Locate	C1	Read	C2	Secure	C4
Approve	04	Coordinate	C4	Edit	C4	Manage	C3	Recognize	C1	Select	C1
Assemble	C6	Correlate	C4	Employ	C3	Modify	C6	Recommend	C6	Task	C5
Assess	C5	Counsel	C6	Ensure	02	Order	C3	Reconnoiter	C1	Test	C4
Brief	02	Debrief	02	Establish	C6	Organize	C6	Record	C1	Translate	C2
Calculate	C3	Deconflict	C6	Estimate	C2	Orient	C1	Refine	C3	Troubleshoot	C4
Challenge	C2	Defend	C5	Facilitate	03	Perform	C3	Register	C2	Update	C6
Change	03	Define	01	Identify	C1	Plan	C6	Reorganize	C4	Validate	C4
Check	C1	Demonstrate	C3	Implement	C3	Predict	C4	Report	02	Verify	C4
Communicate	C2	Designate	06	Inform	C2	Prepare	C3	Request	C2		
Compare	C4	Detect	01	Integrate	C6	Present	C2	Resolve	C4		

Retrieved from http://www.d.umn.edu/vcaa/assessment/resources.html

~

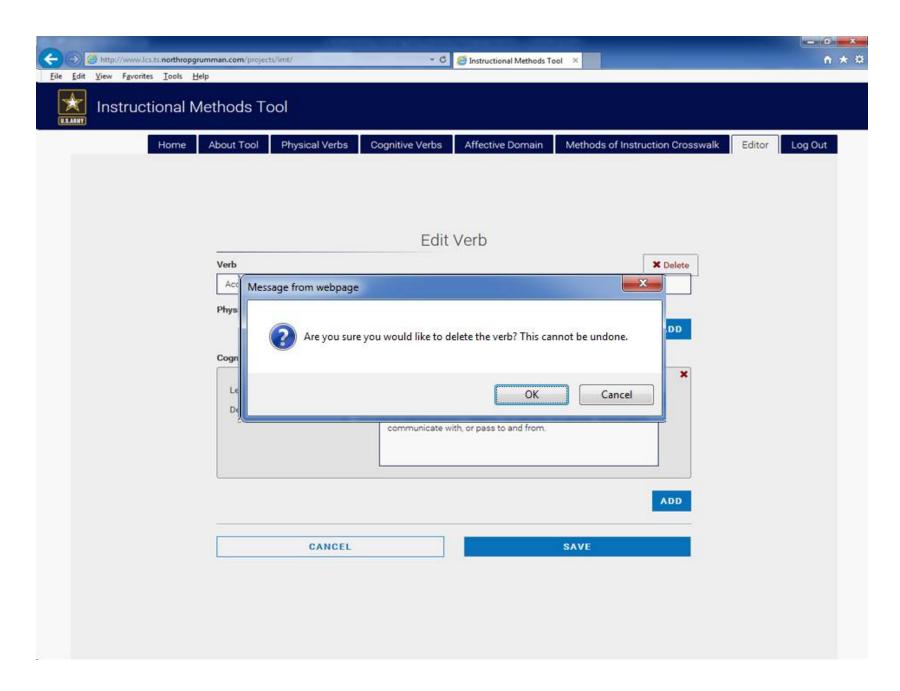
		Physical Verbs Co	gnitive Verbs Affective Domai	in Methods of Instruction Crosswalk	Admin Log
Affective Don	nain				
				values, appreciation, and enthusiasms. Trainin pants, particularly regarding inculcating Army v	
	affective domain and associated WewCStab.aspx?loadTierID=377		e found in the Training and Education D	Developer Toolbox at:	

t <u>V</u> iew	v Fgvorites <u>T</u> ools <u>H</u> elp				_	_	_	_	_		_	-																		
nstru	uctional Methods Tool																													
							lome	A	bout 1	Tool	Ph	iysica	l Verb		Cogr	sitive	Verbs	A	ffectiv	re Do	main	N	lethods	s of In	struc	tion (	Cross	walk.	A	dmin L
10000	hods of Instruction Cros	C. COMPRESS																												
The tab	le below crosswalks the methods of instruct	ion include	1211010	1000	1500	1.500	SNO S	0.09941.0	232.55	2012	10,000	ALC: NO	1000	6.00	20.00	1.1.1.1.1	2.13	1000	3621102											
-			AP	BR	CAC	CE	CLG	CS	DAP	DE	DEB	DM	DSL	FO	FT					-	8 P	E PP	PPN	PS	RD	RP	SE		so	WA
_	Advanced Organizers		-	-		-		-		-	-		-	-		Х	X	×		×	_	_	-	-	-	-	Χ.	X	×	
_	Backwards Chaining PE	_	X	-	-				×		-		-				-	х		-	-	C .	-	-	-			-	X	
-	Backwards Fading PE		X	-					X									X		-	-	K.	-	-					×	
-	Case Studies		X	-	X	X	X	X		X	X		X			X	X		X		-	< 3		-	1 10	-	×			X
-	Compare and Contrast	_	X	-	×	X	X	X		X	X		X			X	X	X		×	-	К - Х		X		-	×	×	X	X
-	Debates		X	X	X	X	. X.	X		X	X		X	-		Х	-		х			X X	X	×	X	X	х	-	X	
_	Demonstration		-	-	×	X			х		_	X				Х	_	X	-	×	-	_		-	-	-			X	
	Experiential Learning		X	6 - C. C.	×	X	X	X		X	X		Х	X	X	X		×	x			K X	X	X	X	х	X	X		X
	Forwards Chaining PE		X	-					×									X			-	< .							х	
	Group Work		×	×	×	X	×	×	Х	×	х		х			X	Х		×	-	- 2	X X	X	X	×	×	X	X		X
	Guided Notes			_					х			X				X	Х		_	X		_	_						х	
	Homework		X		×		X	X	Х	X						Х	X	X	х		-	Ki 🗋	X	X			х		X	X
	1MI		X	_	X	X	X	X	X	X		X	-			X	-	×			-	K					×	X	X	
	Just-in-time procedural information		X	-	Χ.	6-			1	-	_	X	-	-		Х	Х	X	х	-		K.		X			×	X	X	
_	Lecture				-	X			X			X	Х				X			×.			_		X					
	Memory Joggers		X		×				х			×.				00	×	Х				K)		×				X	X	
	On-the-job		X			X									X	×			×		- 3	K.	×	×						×
	Peer-toPeer Learning		X	X	X	X	X	X		X	Х		х	X		×	×		х			K	X	X	X	X	X			X
	Practical Exercise		X		X	X	х	х	х	X	х			х	х	×	×	×	х		X	6	X	X	X	х	×	х		×
-	Probing Questions		X	х	×	X		x		X	х		X			X	X		×	X	3	C 3	X	X	х		х			х
	Problem Solving		×	×	×	X	1×1	X		X						Х			х			Ki ix	X	X			×	$\langle X \rangle$		X
	Research Assignments		×		×	Х	X	х		X	×		х			X	×		×			K D	X	X	X	X	×			X
	Role Playing		×		х	X	X		-	X	×					X	0	-			-	K	X	X		X	х	х		
-	Simulation		X		х	Х			Х	х						Х		х			- 1	X X	X	X	Х	х	×	×		
	Troubleshooting		X		×	X	X			X						х	-	×				K.	X	X				×		
	Varied Contexts/Experience & Situated Lea	rning	X		X	X	X	х		×			Х	×	X	×		×	×		×	K. X	X	×	×	x	X	х		X
-											Legi	end																		
AP	ELM-Apply	DAP	Drill at	nd Pra	ctice		FT	1	Field Tr	rip/Site				-		1	MB	Mod	el Buik	ing	-			RP	5	Role Pl	laying	6		-
BR	Brainstorming	DE	ELM-	11111	anna chù	-	GN	-	ELM -G			w Infor	mation		_	-	PE	10,000	tical E			_		SE		Semina		-		
CAC	Compare/Contrast	DEB	Debat				GR	-	Guided							-	pp	-	-Publis	_		55		SIA	-	Simula				_
CE	ELM - Concrete Experience	DM	Demo		on		IMI	-	Interact	_	-			1		-	PPN		Partne					50	-			verviev	N	_
CLG	Cooperative Learning Groups	DSL	Discus			_	IN	-	Inquiry							-	PS	-	iem Sc		-			W	-			gnment		-
CS	Case Study	FO	Field	-	12000	-	LE	-		-	_	_		-	_	_	RD					_	_	-					100	-

A company		- 0 ×
File Edit View Favorites Tools Help	n/projects/imt/ - C 🧔 Instructional Methods Tool ×	<b>↑</b> ★ ¤
Instructional Methods Tool		
	Home About Tool Physical Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk	Admin Log In
	Administrator Log in	
	User Name	
	Password	
	CANCEL	

Verb       Physical       Cognitive       Image: constraint of the second of the sec	View Favorites Tools I							
VerbPhysicalCognitiveIAccess-2: To have permission, liberty, or ability to enter, approach, communicate with, or pass to and from.*Adjust3-*Administer-3*Align2-*Analyze-4*Annotate-2*Appiv-3*Assentil4-*Assentil4-*Assentil26*Assentil-5*	Home	About Tool Physical Verbs	Cognitive Verbs	Affect	ive Domain Methods of	nstruc	ction Crosswalk	Editor Log
Access2. To have permission, liberty, or ability to enter, approach, communicate with, or pass to and from.XAdjust3-XAdminister-3XAlign2-XAnalyze-4XAnnotate-2XApprove-4XAssault4-XAssemble26XAssess-5X		🔇 🕥 1-15of 196			Ad	ld Verb		
or ability to enter, approach, communicate with, or pass to and from.Image: communicate with, or pass to and from.Adjust3-Image: communicate with, or pass to and from.Image: communicate with, or pass to and		Verb 🗸	Physical	~	Cognitive 🗸			
Administer·3×Align2·×Analyze·4×Annotate·2✓Apply·3×Approve·4×Assault4·×Assemble26×Assess·5×		Access	÷		or ability to enter, approach, communicate with, or pass to	1	×	
Administer·3×Align2·×Analyze·4×Annotate·2×Apply·3×Approve·4×Assault4·×Assemble26×Assess·5×		Adjust	3			1	×	
Analyze-4×Annotate-2×Apply-3×Approve-4×Assault4·×Assemble26×Assess-5×		Administer			3	521	1.00	
Annotate-2×Apply-3×Approve-4×Assault4-×Assemble26×Assess-5×		Align	2		•	1	×	
Apply-3×Approve-4×Assault4·×Assemble26×Assess-5×		Analyze	-		4	1	×	
Approve-4×Assault4-×Assemble26×Assess-5×		Annotate			2	1	×	
Assault4·×Assemble26×Assess-5×		Apply	-		3	1	×	
Assemble26XAssess-5X		Approve			4	1	×	
Assess - 5 💉 🗙		Assault	4		-	1	×	
		Assemble	2		6	1	×	
		Assess			S	1	×	
		Attack	4		-	1		
Breach 4 - 💉 🗶		Breach	4				×	
Brief - 2 💉 🗙		Brief			2	1	×	

File Edit Yiew Fgyorites Iools Help	₽ ethods Tool	👻 😋 Instructional Methods To		- <b>□ ×</b>
Home	About Tool Physical Verbs	Cognitive Verbs Affective Domain	Methods of Instruction Crosswalk	Editor Log Out
		Edit Verb		
	Verb		× Delete	
	Access			
	Physical		ADD	
	Cognitive			
	Level Definition	2 To have permission, liberty, or ability to en communicate with, or pass to and from.	ter, approach,	
			ADD	
	CANCEL		SAVE	



Home	About Tool	Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction	on Crocewalk	ditor Log Out
nome	HOUSETOOL	Physical verba	oughtive verbs	Anective Domain	Methods of instruction		
			New	/ Verb			
	Verb						
	Physical						
	Level Definition					×	
	Cognitive					ADD	
						×	
	Level Definition						

# Appendix C

Military Task Examples P1-Imitation / Small Group / New to Task

Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Variables	Recommended Methods and Sequence of Instruction		
Action Verb			
Enter	Choose the method of instruction based on the "Time of Instruction" for the ELO.		
Performance Level	Time of Instruction Method of Instruction		
P1 - Imitation	2 hours Demonstration then PEs		
Definition	4-8 hours Multiple practice sessions and rehearsals with Facilitator feedback		
To go into or upon:			
Group Size	Key Points for Success 🗸		
<ul> <li>1:16 or less</li> </ul>	Facilitator Considerations		
1:17 or greater	Practical Exercise Considerations		
Experience			
New to task	Demonstration Considerations		
No task knowledge, no fundamentals.	Other Considerations		
Preliminary task knowledge, understands fundamentals.	Forward Chaining Example		
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul>	Backwards Chaining Example		
Other Verbs at the same Physical	Backwards Fading Example		
O Proficient with task	Forward Chaining Example		
Other Verba at the same Dhusical	Backwards Fading Example		

Dismantle

Distribute

Load

Lubricate

Send

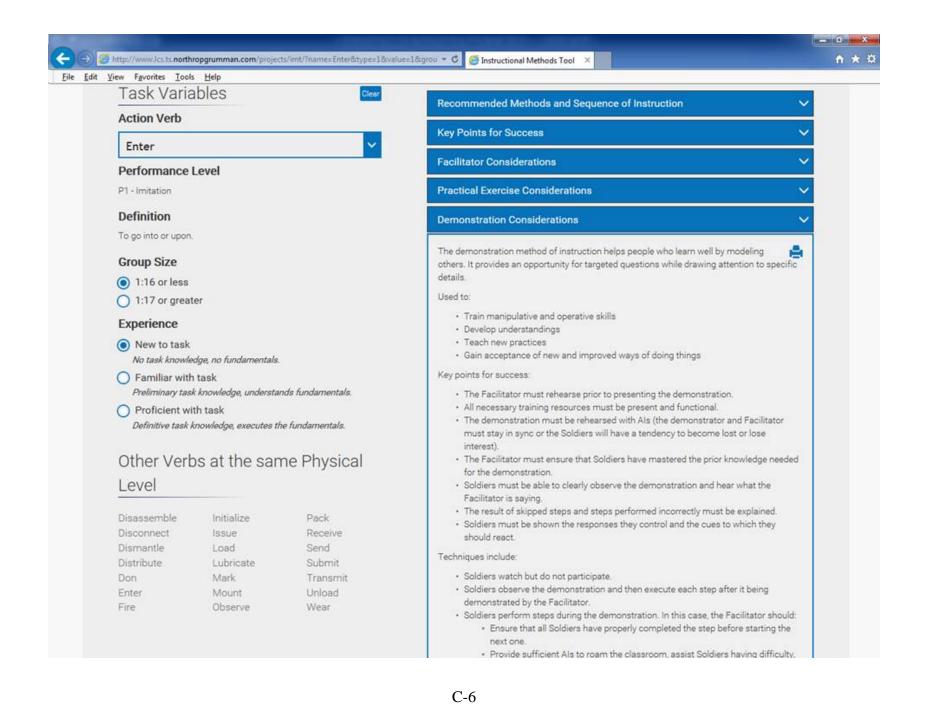
Submit

Instructional Methods Tool				
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Log			
Task Variables	Recommended Methods and Sequence of Instruction			
Action Verb				
Enter	Key Points for Success			
Performance Level	Soldiers must be given multiple opportunities to practice.			
P1 - Imitation	<ul> <li>Facilitator feedback is essential.</li> <li>Facilitators need to monitor performance to help Soldiers avoid establishing faulty</li> </ul>			
Definition	habits.			
To go into or upon.	Facilitator Considerations			
Group Size				
1:16 or less	Practical Exercise Considerations			
0 1:17 or greater	Demonstration Considerations			
Experience	Other Considerations			
New to task	Forward Chaining Example			
No task knowledge, no fundamentals.				
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Backwards Chaining Example			
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul>	Backwards Fading Example 🗸 🗸 🗸			

Disassemble	Initialize	Pack
Disconnect	Issue	Receive
Dismantle	Load	Send
Distribute	Lubricate	Submit

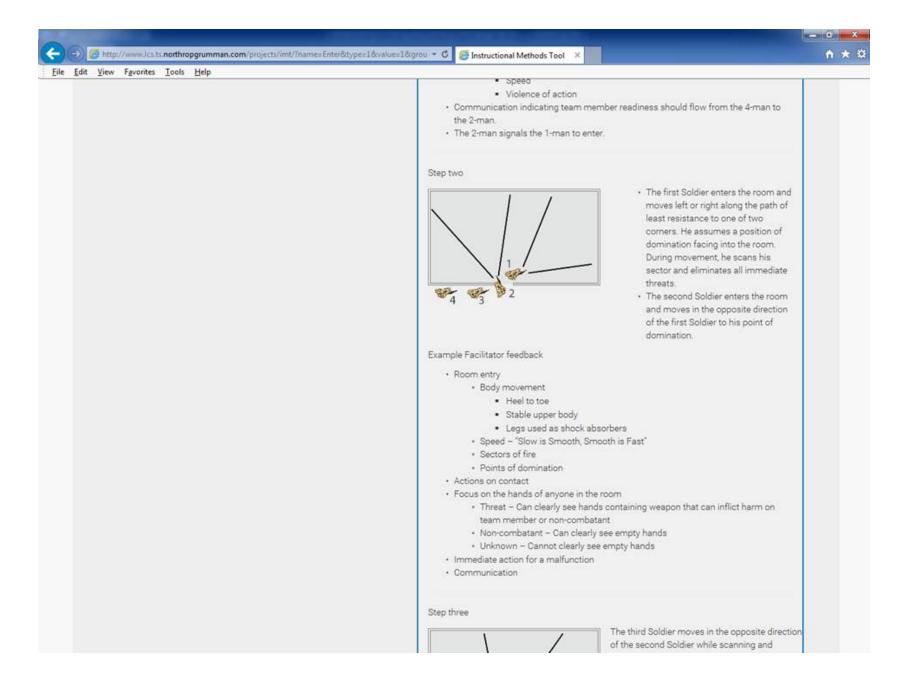
_		ool			
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	bles	Clear			
Action Verb			Recommended Methods and Sequence of Instruction		
Enter		~	Key Points for Success		
Performance I	Level		Facilitator Considerations		
P1 - Imitation			Facilitators should:		
Definition			Demonstrate the task.		
To go into or upon.			<ul> <li>Provide multiple practical exercises.</li> <li>Direct the Soldiers' attention to important cues and rules (cues can be seen, heard, or</li> </ul>		
Group Size			felt).  • Give clear verbal descriptions.		
1:16 or less			<ul> <li>Inform the Soldiers of the cues they will respond to and the rules they will follow</li> </ul>		
O 1:17 or great	er		when performing the skill.  Break the task into subtasks if possible and sequence in the order they are		
Experience			<ul> <li>performed.</li> <li>Simplify the task at the start of practice but do not violate the pattern of the task as a</li> </ul>		
New to task			whole. <ul> <li>Watch Soldiers intently to provide prompt and accurate feedback about their</li> </ul>		
O Familiar with	dge, no fundamentals task : knowledge, understa		<ul> <li>Performance.</li> <li>Monitor the Soldiers to help them avoid establishing faulty habits.</li> </ul>		
O Proficient wit	th task <i>nowledge, executes t</i>	he fundamentals.	Practical Exercise Considerations		
Other Verh	is at the sar	ne Physical	Demonstration Considerations		
Level	o ut the out	ne i nyeloui	Other Considerations N		
Disassemble	Initialize	Pack	Forward Chaining Example		
Disconnect	Issue	Receive	Backwards Chaining Example		
Dismantle	Load	Send			

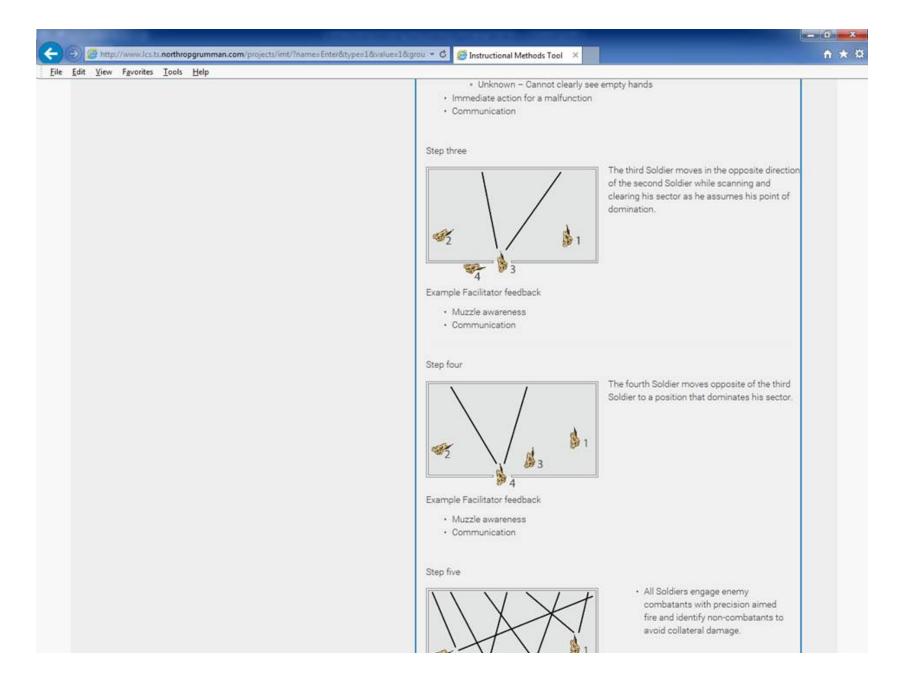
Instructiona	l Methods T	ool	
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Varia	bles	Clear	Recommended Methods and Sequence of Instruction
Action Verb			
Enter		~	Key Points for Success
Performance I	Level		Facilitator Considerations
P1 - Imitation			Practical Exercise Considerations
<ul> <li>Familiar with Preliminary task</li> <li>Proficient with</li> </ul>	dge, no fundamentals task ; knowledge, understa	ands fundamentals.	<ul> <li>Practical Exercises (PE) Methods</li> <li>Forward Chaining - in which the task is performed from beginning to end.</li> <li>Backwards Chaining - where the final component of the task is performed first so that Soldiers are provided with knowledge of the results prior to learning the beginning components; or</li> <li>Backwards Fading - where Soldiers are first shown the complete worked example, then facilitator led steps are then systematically reduced, until finally the Soldiers complete the entire task on their own.</li> <li>Selection of a PE method is based on when feedback can be given on task performance         <ul> <li>If feedback is provided only upon the completion of all task components, forward chaining is recommended.</li> </ul> </li> <li>Assess</li> </ul>
	s at the sar	me Physical	Whether Soldiers can perform the entire task on their own with minimal errors  Demonstration Considerations
Level			Other Considerations
Disassemble Disconnect	Initialize Issue		Forward Chaining Example
Dismantle Load Send		Send	

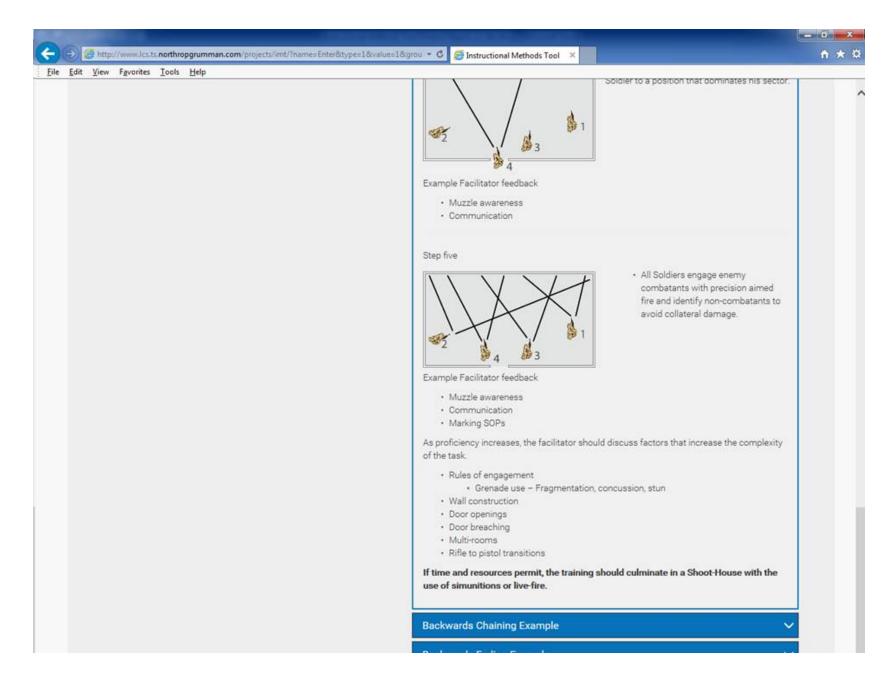


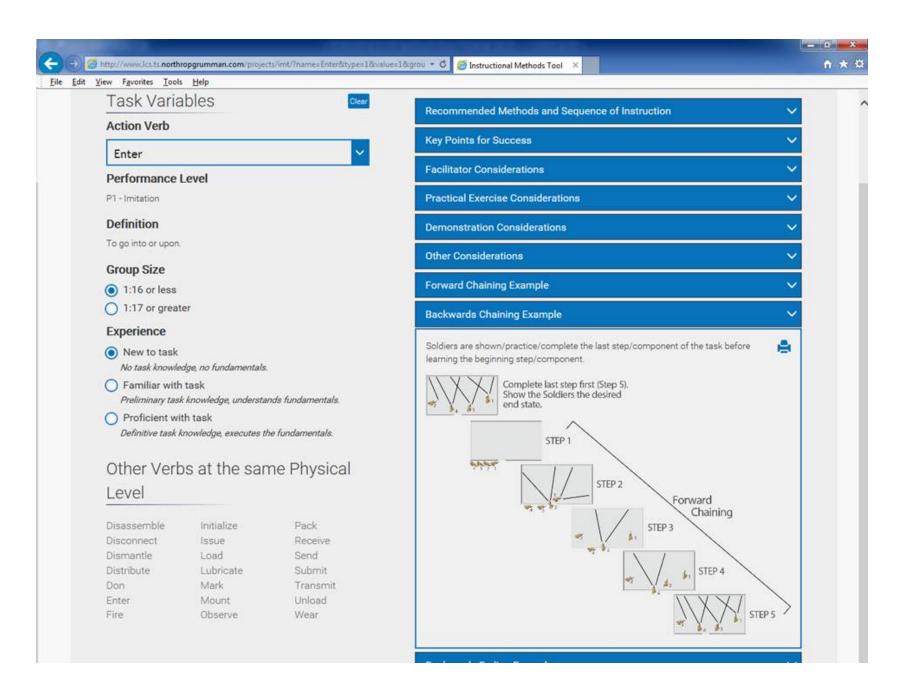
View Favorites Iools Help	
Instructional Methods Tool	
Home About Tool	Physical Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
TealeVariables	
Task Variables	Clear Recommended Methods and Sequence of Instruction
Action Verb	Key Points for Success
Enter	
Performance Level	Facilitator Considerations V
P1 - Imitation	Practical Exercise Considerations
Definition	Demonstration Considerations
To go into or upon.	
Group Size	Other Considerations V
1:16 or less	Other Considerations
0 1:17 or greater	<ul> <li>Focus feedback to learners on the effects of their movements rather than on the</li> </ul>
Experience	<ul> <li>movements themselves (fingers, hands, and head).</li> <li>Record movements when possible (tape recorders for speech teachers, coaches take</li> </ul>
New to task	motion pictures, etc.)
No task knowledge, no fundamentals.	<ul> <li>Isolate system features and functions required to perform the steps of specific tasks.</li> <li>Limit menu choices to only those needed to perform certain tasks. Direct</li> </ul>
Familiar with task	Soldiers to only those functions needed at that time in the course.  • Employ software that "takes over the input device (e.g., mouse)" of the Soldier
Preliminary task knowledge, understands fun Proficient with task	to show the Soldier which parts of the user interface to select (e.g., mouse) of the Soldier
Definitive task knowledge, executes the fund.	mentals. choices, buttons, graphics, and indexes). Users spend less time practicing the steps and components of the task and less time recovering from errors.  Learning by discovery on the complete system is inefficient.
Other Verbs at the same F	hysical
Level	Forward Chaining Example
Disassemble Initialize	Backwards Chaining Example
	leceive a second s
Dismantle Load	end Backwards Fading Example

dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools	Help		E-marked Objectives E-marked	
1:16 or less			Forward Chaining Example	
1:17 or great	er		Task Number: 07-4-D9509	
Experience			Task Title: Enter and Clear a Room	
New to task No task knowled	dge, no fundamentals		The Facilitator and cadre demonstrate the entire task to the Soldiers after depicting the desired end state.	
Familiar with Preliminary task	task : knowledge, understa	nds fundamentals.	The Facilitator should use a method that allows the Soldier to view the entire task and the movements of each individual (tape house, glass house, short boards, etc.).	
O Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Physical			<ul> <li>The Facilitator should then use the crawl, walk, run process during training:</li> <li>Crawl – The Facilitator moves each Soldier into position at a slow pace.</li> <li>Walk – The Soldiers move themselves into position at a slow pace.</li> <li>Run – The Soldiers move into position at a faster pace.</li> </ul>	
Level			Step One	
Disassemble Disconnect Dismantle Distribute Don Enter Fire	Initialize Issue Load Lubricate Mark Mount Observe	Pack Receive Send Submit Transmit Unload Wear	<ul> <li>The Soldiers form a 4-man stack outside of the room.</li> <li>The 2-man is the team leader and controls execution.</li> <li>The 2-man is the team leader and controls execution.</li> <li>The distance between Soldiers should allow: <ul> <li>Communication by</li> <li>Hand and arm signals</li> <li>Low voice</li> <li>Movement through the door</li> <li>Speed</li> <li>Violence of action</li> </ul> </li> <li>Communication indicating team member readiness should flow from the 4-man to the 2-man.</li> <li>The 2-man signals the 1-man to enter.</li> </ul>	









1:17 or greater			Backwards Chaining Example	
Experience				
New to task			Backwards Fading Example V	
No task knowledge, no fundamentals.  Familiar with task Preliminary task knowledge, understands fundamentals.  Proficient with task Definitive task knowledge, executes the fundamentals.  Other Verbs at the same Physical Level			Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials. Used to:	
			<ul> <li>Teach tasks to individuals who have no prior knowledge of the task</li> <li>Teach tasks that are cumulative in nature (relationship between steps)</li> <li>Move individuals from worked examples to problem solving</li> </ul>	
		ne Physical	Key points for success:	
		-	<ul> <li>Ongoing evaluation of the Soldier's performance is required.</li> <li>The Facilitator determines when to remove instructional support based on Soldier performance.</li> </ul>	
Disassemble Disconnect	Initialize Issue	Pack Receive	Techniques include:	
Dismantle Distribute Don Enter Fire	Load Lubricate Mark Mount Observe	Send Submit Transmit Unload Wear	<ul> <li>Together, the Facilitator and Solider perform a series of trials (attempts).</li> <li>In early learning trials, both the Soldier and the Facilitator are involved in performing task steps.</li> <li>In later learning trials, more and more of the task steps are performed by the Soldier alone.</li> </ul>	
			ENTER AND CLEAR A ROOM BACKWARDS FADING	
			TRIALS         STEPS         TRIALS         BIS TRIALS         TRIALS TRIALS         TRIALS TRIALS         Trial 2 - The facilitator and the Soldiers perform the last task steps and the Soldiers perform the last two task steps and the Soldiers perform the first two task steps and the Soldiers perform the last two task steps and the Soldiers perform the first two task steps and the Soldiers perform the first two task steps and the Soldiers perform the first two	

Edit View Favorites	Iools <u>H</u> elp	UTIOBU				
Fire	Observe	Wear	alone.			
			ENTER AND CLEAR	A ROOM	BACKWARDS FADING	
				-	<ul> <li>First the facilitator demonstrates the task from beginning to end while the Soldiers watch.</li> <li>Trial 1 - Begins as a guided demonstration. In other words, each Soldier watchess and mmikes the task steps performed by the facilitator. There are no 'Soldier only' steps in this trial.</li> <li>Trial 2 - The facilitator and the Soldiers perform the first four task steps and the Soldiers perform the last task steps and the Soldiers perform the first twee task steps and the Soldiers perform the last two task steps alone.</li> <li>Trial 4 - The facilitator and the Soldiers perform the first two task steps and the Soldiers perform the last two task steps alone.</li> <li>Trial 5 - The facilitator and the Soldiers perform the first two task steps and the Soldiers perform the last three task steps alone.</li> <li>Trial 5 - The facilitator and the Soldiers perform the first task steps and the Soldiers perform the last flore task steps alone.</li> <li>Trial 5 - The facilitator and the Soldiers perform the first task steps and the Soldiers perform the last three task steps alone.</li> <li>Trial 6 - The Soldiers complete the whole task by themselves.</li> </ul>	

## Appendix D

Military Task Examples P1-Imitation / Large Group / New to Task

nstructional Methods Tool			
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Variables	Recommended Methods and Sequence of Instruction		
Action Verb	Recommended methods and bequence of instruction		
Enter	Direct Instruction in a Large Group		
	<ul> <li>Facilitators should demonstrate the task to the large group first</li> <li>The large group should be broken bown into small groups for the practical exercise</li> </ul>		
Performance Level P1 - Imitation	Choose the method of instruction based on the "Time of Instruction" for the ELO.		
	Time of Instruction Method of Instruction		
Definition	1 hours Demonstration		
To go into or upon.	2 hours Demonstration followed by PEs		
Group Size	4-8 hours Multiple practice sessions and rehearsals with Facilitator feedback		
1:16 or less			
1:17 or greater	Key Points for Success		
Experience	Facilitator Considerations		
New to task			
No task knowledge, no fundamentals.	Practical Exercise Considerations		
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Demonstration Considerations		
<ul> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> </ul>	Other Considerations V		
Other Verbs at the same Physical	Demonstration Example 🗸 🗸		
Level	Backwards Fading Example		

~

Submit

Transmit Unload

Lubricate

Mark

Mount

Oheen

Distribute

Don

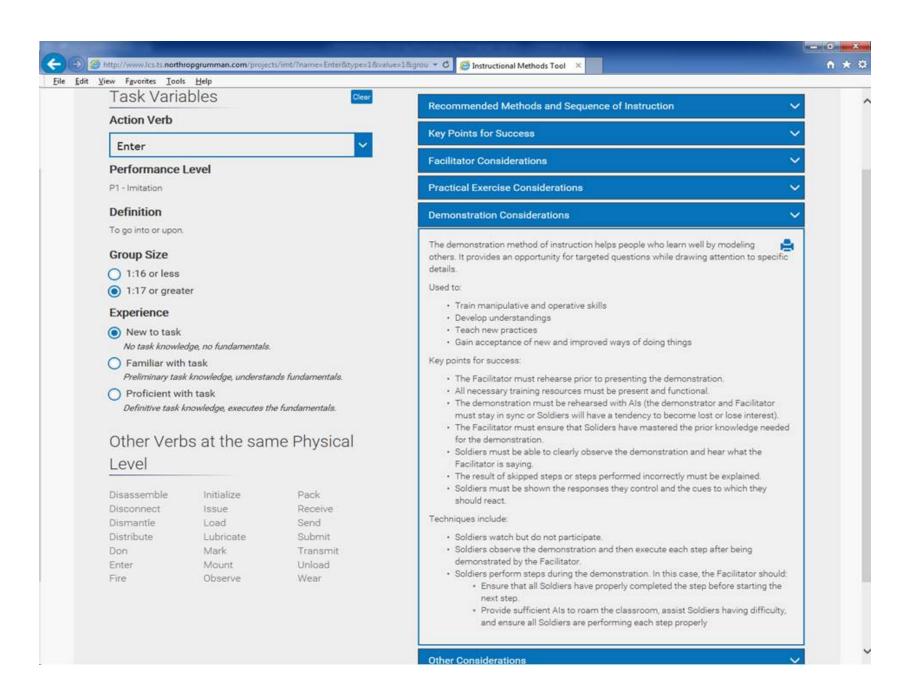
Tim

Enter

	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Varia	ables	Clear		
Action Verb			Recommended Methods and Sequence of Instruction	
Enter		~	Key Points for Success	
Performance Level			Facilitators demonstrate procedures in steps to the large group. Soldiers observe 🚔	
P1 - Imitation Definition			<ul> <li>each step then practice in small groups.</li> <li>The large group can be broken into small groups in the corners of the classroom or in outside areas.</li> <li>Facilitators could provide an entire worked example to the large group, and the PE could be for Soldiers in the small groups to first complete missing steps and then complete the entire task on their own (backwards fading).</li> <li>As time allows, multiple rehearsals with Facilitator feedback should be performed in the small groups.</li> </ul>	
To go into or upon	To go into or upon.			
Group Size				
O 1:16 or less			Facilitator feedback is essential.	
1:17 or great	ter		<ul> <li>A culminating event could be for one individual from each small group to demonstrate the procedures to the large group.</li> </ul>	
Experience				
<ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task</li> </ul>			Facilitator Considerations	
			Practical Exercise Considerations	
Preliminary task     Proficient wi	<i>k knowledge, understa</i> ith task	inds fundamentals.	Demonstration Considerations	
Definitive task i	knowledge, executes t	he fundamentals.	Other Considerations	
Other Verbs at the same Physical			Demonstration Example	
Level			Backwards Fading Example	
Disassemble	Initialize	Pack	Franciscus and a second description of the second s Second second sec	
Disconnect	Issue	Receive		

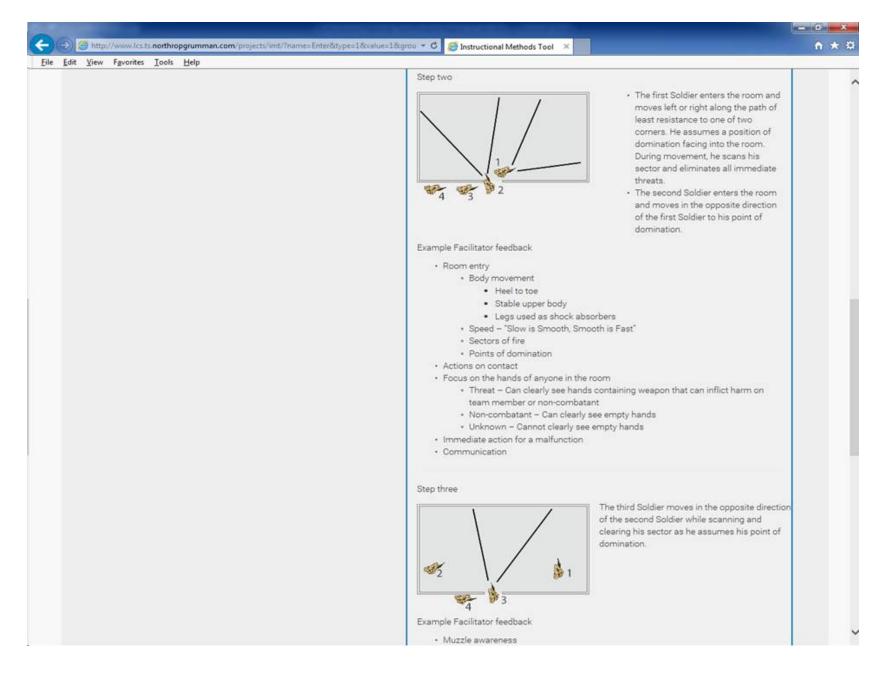
	nods Tool		
Home	About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Variables	Clear	Recommended Methods and Sequence of Instruction	
Action Verb			
Enter	✓	Key Points for Success	
Performance Level		Facilitator Considerations	
P1 - Imitation		Facilitators should:	
Definition		Demonstrate the task to the large group.	
To go into or upon.		<ul> <li>Break the large group into small groups.</li> <li>Separate the large group (corner of the classroom or outside area).</li> <li>Provide multiple practical exercises.</li> <li>Direct the Soldier's attention to important cues and rules (cues can be seen, heard or felt).</li> </ul>	
Group Size			
O 1:16 or less			
1:17 or greater		<ul> <li>Give clear verbal descriptions.</li> <li>Inform the Soldiers of the cues they will respond to and the rules they will follow</li> </ul>	
Experience		<ul> <li>when using the skill.</li> <li>Break the task into subtasks if possible and sequence in the order they are</li> </ul>	
New to task		performed.	
No task knowledge, no fur	ndamentals.	<ul> <li>Simplify the task at the start of practice but do not violate the pattern of the task as a whole.</li> </ul>	
	ie, understands fundamentals.	<ul> <li>Watch Soldiers intently to provide prompt and accurate feedback about their performance.</li> </ul>	
O Proficient with task		<ul> <li>Monitor the Soldiers to help them avoid establishing faulty habits.</li> </ul>	
Definitive task knowledge,	executes the fundamentals.		
Other Verbs at t	he same Physical	Practical Exercise Considerations	
Level	ine carrie i rijencar	Demonstration Considerations	
		Other Considerations	
Disassemble Initia Disconnect Issue		Demonstration Example	
	Send		

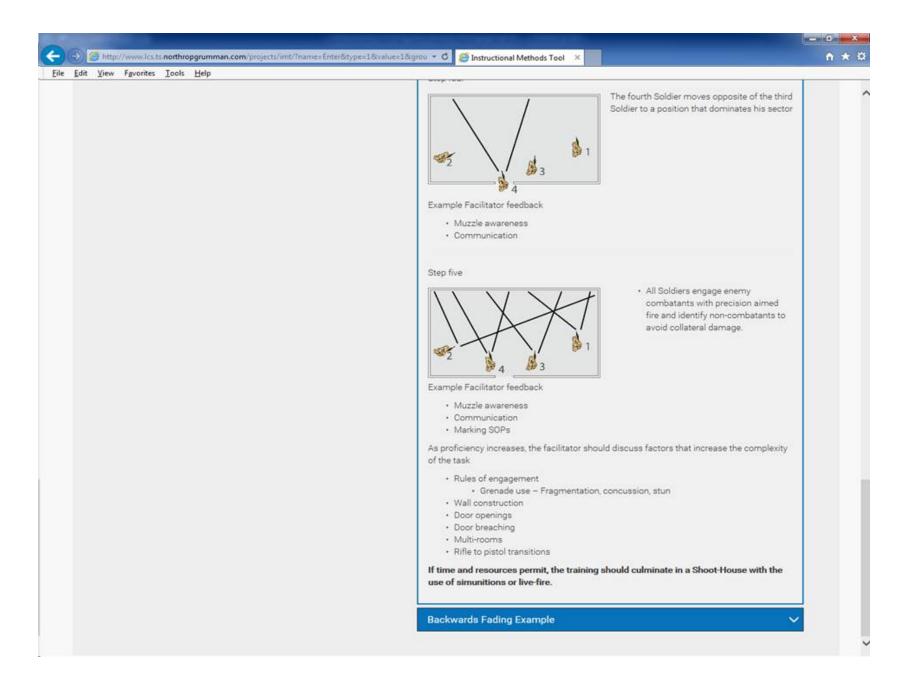
Instructiona	Methods T	00			
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin I		
-					
Task Variables			Recommended Methods and Sequence of Instruction $\sim$		
Action Verb			Key Points for Success		
Enter		×			
Performance I	_evel		Facilitator Considerations		
P1 - Imitation			Practical Exercise Considerations		
Definition	Definition		Facilitators could provide an entire worked example to the large group.		
To go into or upon.			<ul> <li>Soldiers should observe each step of the demonstration then practice in small</li> </ul>		
Group Size			groups. <ul> <li>One method is to break the large group into small groups in the corners of the</li> </ul>		
1:16 or less			classroom or in outside areas.		
1:17 or great	er		<ul> <li>The PE could be for Soldiers in the small groups to first complete missing steps and then complete the entire task on their own (backwards fading).</li> </ul>		
Experience			<ul> <li>Multiple PEs should be preformed in the small groups with Facilitator feedback.</li> <li>A culminating event could be for one individual from each small group to</li> </ul>		
New to task			demonstrate the procedures to the large group.		
<u> </u>	dge, no fundamentals		Assess		
Familiar with Preliminary task	task knowledge, understa	nds fundamentals.	Whether Soldiers can complete the entire task on their own with minimal errors		
O Proficient wit	th task <i>nowledge, executes t</i>	he fundamentals.	Demonstration Considerations		
Othor Vorh	o at the aar	no Physical	Other Considerations 🗸 🗸		
Level	s at the sal	ne Physical	Demonstration Example		
			Backwards Fading Example		
Disassemble	Initialize	Pack			
Disconnect	Issue	Receive			
Dismantle Distribute	Load	Send Submit			
Don	Lubricate Mark	Transmit			
5.511	Mount	Unload			



Home       About Tool       Physical Verbs       Cognitive Verbs       Affective Domain       Methods of Instruction Crosswalk       Admin         Task Variables       Ger       Image: Comparison of Comparison	Task Variables       Clear         Action Verb       Recommended Methods and Sequence of Instruction         Enter       Image: Clear Considerations         Performance Level       P1 - Imitation         P1 - Imitation       Practical Exercise Considerations         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       0 1:17 or greater         • 1:17 or greater       • Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         • 1:17 or greater       • Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         • New to task       • New to task	Admin ~ ~	
Task Variables       Image: Construction Sequence of Instruction         Action Verb       Image: Construction Sequence of Instruction         Enter       Image: Construction Sequence of Instruction         Performance Level       Image: Construction Sequence of Instruction         P1 - Imitation       Image: Construction Sequence of Instruction         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       Image: Construction Sequence of Instruction Sequence of Instruction Sequence of Instructions         Image: Image: Image: Construction Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of	Task Variables       Clear         Action Verb       Recommended Methods and Sequence of Instruction         Enter       Image: Clear Considerations         Performance Level       P1 - Imitation         P1 - Imitation       Practical Exercise Considerations         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       0 1:17 or greater         • 1:17 or greater       • Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         • 1:17 or greater       • Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         • New to task       • New to task	Admin ~ ~ ~	
Task Variables       Image: Construction Sequence of Instruction         Action Verb       Image: Construction Sequence of Instruction         Enter       Image: Construction Sequence of Instruction         Performance Level       Image: Construction Sequence of Instruction         P1 - Imitation       Image: Construction Sequence of Instruction         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       Image: Construction Sequence of Instruction Sequence of Instruction Sequence of Instructions         Image: Image: Image: Construction Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of Instruction Sequence Sequence of	Task Variables       Clear         Action Verb       Recommended Methods and Sequence of Instruction         Enter       Image: Clear Considerations         Performance Level       P1 - Imitation         P1 - Imitation       Practical Exercise Considerations         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       0 1:17 or greater         • 1:17 or greater       • Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         • 1:17 or greater       • Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         • New to task       • New to task	Admin	
Action Verb       Recommended Methods and Sequence of Instruction         Enter       Performance Level         Pri-Imitation       Practical Exercise Considerations         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       •         •       1:16 or less         •       1:17 or greater         Experience       •         •       No to task         No to task       Indamentals.         •       Performance Level         •       Demonstration Considerations         •       Procend movements when possible (tape recorders for speech teachers, coaches take mowledge, no fundamentals.         •       Performinary task knowledge, understands fundamentals.         •       Performance task knowledge, understands fundamentals.         •       Profile twith task         Definitive task knowledge, executes the fundamentals.       Demonstration Example         •       Demonstration Example         Disassemble       Initialize       Pack         Disassemble       Initialize       Pack         Disanate       Load       Send         Distribute       Lubricate       Submit	Action Verb       Recommended Methods and Sequence of Instruction         Enter       Y         Performance Level       Facilitator Considerations         P1 - Imitation       Practical Exercise Considerations         Definition       Demonstration Considerations         To go into or upon.       Other Considerations         Group Size       1:16 or less         I:17 or greater       + Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         I:17 or greater       - Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         New to task       - Demonstrate or explain the responses under the Soldiers' control and the out which they should react.	× ×	
Action Verb       Recommended Methods and Sequence of Instruction         Enter       Performance Level         Pri-Imitation       Practical Exercise Considerations         Definition       Practical Exercise Considerations         To go into or upon.       Other Considerations         Group Size       •         •       1:16 or less         •       1:17 or greater         Experience       •         •       No to task         No to task       Indamentals.         •       Performance Level         •       Demonstration Considerations         •       Procend movements when possible (tape recorders for speech teachers, coaches take mowledge, no fundamentals.         •       Performinary task knowledge, understands fundamentals.         •       Performance task knowledge, understands fundamentals.         •       Profile twith task         Definitive task knowledge, executes the fundamentals.       Demonstration Example         •       Demonstration Example         Disassemble       Initialize       Pack         Disassemble       Initialize       Pack         Disanate       Load       Send         Distribute       Lubricate       Submit	Action Verb       Recommended Methods and Sequence of Instruction         Enter       Y         Performance Level       Facilitator Considerations         P1 - Imitation       Practical Exercise Considerations         Definition       Demonstration Considerations         To go into or upon.       Other Considerations         Group Size       1:16 or less         I:17 or greater       + Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         I:17 or greater       - Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         New to task       - Demonstrate or explain the responses under the Soldiers' control and the out which they should react.	~ ~ ~	
Enter   Performance Level   P1 - Imitation   Definition   To go into or upon.   Group Size   1:16 or less   1:17 or greater.   Experience   Imiliar vitask knowledge, no fundamentals.   Proficient with task   Definitive task knowledge, executes the fundamentals.   Other Verbs at the same Physical   Level     Disassemble   Initialize   Pack   Disassemble   Initialize <tr< td=""><td>Enter          <ul> <li>Performance Level</li> <li>P1 - Imitation</li> </ul>               Practical Exercise Considerations         <ul> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Performance Level</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Demonstration Considerations</li> <li>Other Considerations</li> <li>Other Considerations</li> <li>Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)</li> <li>Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)</li> <li>Demonstrate or explain the responses under the Soldiers' control and the comwhich they should react.</li> </ul></td><td>~</td></tr<>	Enter <ul> <li>Performance Level</li> <li>P1 - Imitation</li> </ul> Practical Exercise Considerations <ul> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Performance Level</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Practical Exercise Considerations</li> <li>Demonstration Considerations</li> <li>Other Considerations</li> <li>Other Considerations</li> <li>Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)</li> <li>Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)</li> <li>Demonstrate or explain the responses under the Soldiers' control and the comwhich they should react.</li> </ul>	~	
Performance Level         P1 - Imitation         Definition         To go into or upon.         Group Size         1:16 or less         1:17 or greater         Experience         No task         No task knowledge, no fundamentals.         Particular thask         Predimitary task knowledge, understands fundamentals.         Proficient with task         Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical         Level         Disconnect       Issue         Disconnect       Issue         Disconnect       Load         Distribute       Lubricate	Performance Level         P1 - Imitation         Definition         To go into or upon.         Group Size         1:16 or less         1:17 or greater         Experience         New to task	~	
P1-Imitation       Practical Exercise Considerations         Definition       To go into or upon.         Group Size       0         1:16 or less       Other Considerations         1:17 or greater       * Focus feedback to learners on the effects of their movements rather than on movements themselves (fingers, hands, and head)         1:17 or greater       * Procus feedback to learners on the effects of their movements rather than on movements themselves (fingers, hands, and head)         No task knowledge, no fundamentals.       • Demonstration Considerations         • Familiar with task Preliminary task knowledge, understands fundamentals.       • Demonstration Example         Other Verbs at the same Physical Level       Demonstration Example         Disassemble       Initialize       Pack         Disassemble       Initialize       Pack         Disassemble       Load       Send         Distribute       Lubricate       Submit	P1 - Imitation       Practical Exercise Considerations         Definition       Demonstration Considerations         To go into or upon.       Other Considerations         Group Size       Other Considerations         1:16 or less       • Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         1:17 or greater       • Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         • New to task       • Demonstrate or explain the responses under the Soldiers' control and the curve which they should react.	~	
To go into or upon.       Other Considerations         Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismante Load Send Distribute Lubricate Submit</li> <li>Other Sending Example</li> <li< td=""><td>To go into or upon.       Other Considerations         Group Size       0 1:16 or less         Image: Interview of the second second</td><td>~</td></li<></ul>	To go into or upon.       Other Considerations         Group Size       0 1:16 or less         Image: Interview of the second	~	
To go into or upon.       Other Considerations         Group Size       •         • 1:16 or less       •         • 1:17 or greater.       •         Experience       •         • New to task       •         No task knowledge, no fundamentals.       •         • Forflicent with task       •         Proflicient with task       •         Definitive task knowledge, executes the fundamentals.       •         Other Verbs at the same Physical       •         Level       •         Disassemble       Initialize         Dissesemble       Initialize         Disconnect       Issue         Bisrointe       Load         Distribute       Lubricate	To go into or upon.       Other Considerations         Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task</li> </ul> <ul> <li>Percent set</li> <li>Demonstrate or explain the responses under the Soldiers' control and the cul                 <ul> <li>Demonstrate or explain the responses under the Soldiers' control and the cul                      <ul> <li>Demonstrate or explain the responses under the Soldiers' control and the cul                     <ul> <li>which they should react.</li> </ul> </li> <li>Demonstrate or explain the responses under the Soldiers' control and the cul                               <ul></ul></li></ul></li></ul></li></ul>	Demonstration Considerations	
Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Focus feedback to learners on the effects of their movements rather than on movements themselves (fingers, hands, and head)</li> <li>Record movements when possible (tape recorders for speech teachers, coaches take motion pictures, etc.)</li> <li>Demonstrate or explain the responses under the Soldiers' control and the cues to which they should react.</li> <li>Judge progress in terms of technique vice output.</li> </ul> <li>Demonstration Example         <ul> <li>Demonstration Example</li> <li>Backwards Fading Example</li> </ul> </li> <li>Other Verbs at the same Physical Level         <ul> <li>Disassemble Initialize Pack</li> <li>Disassemble Load Send</li> <li>Deda Send</li> <li>Distribute Lubricate Submit</li> </ul> </li>	Group Size       • Focus feedback to learners on the effects of their movements rather than or movements themselves (fingers, hands, and head)         1:17 or greater       • Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)         Experience       • Demonstrate or explain the responses under the Soldiers' control and the curwhich they should react.		
<ul> <li>i:17 or greater</li> <li>i:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send Distribute Lubricate Submit</li> </ul>	Image: Second state sta	~	
<ul> <li>T:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send Distribute Lubricate Submit</li> <li>Record movements when possible (tape recorders for speech teachers, coaches take motion pictures, etc.)</li> <li>Demonstrate or explain the responses under the Soldiers' control and the cues to which they should react.</li> <li>Judge progress in terms of technique vice output.</li> <li>Demonstration Example</li> <li>Backwards Fading Example</li> </ul>	I:17 or greater         • Record movements when possible (tape recorders for speech teachers, coal motion pictures, etc.)           Experience         • Demonstrate or explain the responses under the Soldiers' control and the cull which they should react.	n 🔒	
<ul> <li>Demonstrate or explain the responses under the Soldiers' control and the cues to which they should react.</li> <li>Judge progress in terms of technique vice output.</li> <li>Judge progress in terms of technique vice output.</li> <li>Demonstration Example</li> <li>Backwards Fading Example</li> <li>Bisassemble Initialize Pack</li> <li>Disassemble Initialize Pack</li> <li>Disassemble Initialize Pack</li> <li>Disantle Load Send</li> <li>Distribute Lubricate Submit</li> </ul>	Demonstrate or explain the responses under the Soldiers' control and the cu Which they should react.	iches take	
<ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send Distribute Lubricate Submit</li> </ul>	New to task     which they should react.	ues to	
Familiar with task   Preliminary task knowledge, understands fundamentals.   Proficient with task   Definitive task knowledge, executes the fundamentals.     Demonstration Example   Backwards Fading Example     Backwards Fading Example     Disassemble   Initialize   Pack   Disconnect   Issue   Receive   Dismantle   Load   Send   Distribute   Lubricate	No task knowledge, no fundamentals.  • Judge progress in terms of technique vice output.		
Preliminary task knowledge, understands fundamentals.   Proficient with task   Definitive task knowledge, executes the fundamentals.   Other Verbs at the same Physical   Level   Disassemble   Initialize   Pack   Disconnect   Issue   Receive   Dismantle   Load   Send   Distribute	Camilias with task		
Proficient with task   Definitive task knowledge, executes the fundamentals.     Backwards Fading Example     Backwards Fading Example     Other Verbs at the same Physical     Level     Disassemble   Initialize   Pack   Disconnect   Issue   Receive   Dismantle   Load   Send   Distribute	Proliminant taek knowledge understande fundementale	~	
Other Verbs at the same Physical         Level         Disassemble       Initialize         Disconnect       Issue         Dismantle       Load         Distribute       Lubricate	Proficient with task		
Level       Disassemble     Initialize       Disconnect     Issue       Disconnect     Issue       Dismantle     Load       Distribute     Lubricate	Backwards Fading Example	~	
Disassemble     Initialize     Pack       Disconnect     Issue     Receive       Dismantle     Load     Send       Distribute     Lubricate     Submit	Other Verbs at the same Physical		
Disconnect     Issue     Receive       Dismantle     Load     Send       Distribute     Lubricate     Submit	Level		
Dismantle Load Send Distribute Lubricate Submit	Disassemble Initialize Pack		
Distribute Lubricate Submit			
Don More Transmit	Distribute Lubricate Submit Don Mark Transmit		

View Favorites Tools	Help		7	
1:16 or less			Demonstration Example	
1:17 or great	er		Task Number: 07-4-D9509	
Experience			Task Title: Enter and Clear a Room	
New to task No task knowle	dge, no fundamentals		The Facilitator and cadre demonstrate the entire task to the Soldiers after depicting the desired end state.	
Familiar with Preliminary tasi	task k knowledge, understa	nds fundamentals.	The Facilitator should use a method that allows the Soldier to view the entire task and the movements of each individual (tape house, glass house, short boards, etc.).	
O Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Physical			<ul> <li>The Facilitator should then use the crawl, walk, run process during training:</li> <li>Crawl – The Facilitator moves each Soldier into position at a slow pace.</li> <li>Walk – The Soldiers move themselves into position at a slow pace.</li> <li>Run – The Soldiers move into position at a faster pace.</li> </ul>	
Level			Step One	
Disassemble Disconnect Dismantle Distribute Don Enter Fire	Initialize Issue Load Lubricate Mark Mount Observe	Pack Receive Send Submit Transmit Unload Wear	<ul> <li>A solution of the sol</li></ul>	
			Step two The first Soldier enters the room and moves left or right along the path of	





0 1:17 or greater			Packwarde Chaining Evampla	
Experience			Backwards Chaining Example	
New to task			Backwards Fading Example 🗸 🗸	
No task knowle Familiar with Preliminary task Proficient wi Definitive task k Other Verb Level Disassemble Disconnect Dismantle Distribute Don Enter	k knowledge, understa knowledge, executes t OS at the sar Initialize Issue Load Lubricate Mark Mount	nds fundamentals. he fundamentals. The Physical Pack Receive Send Submit Transmit Unload	<ul> <li>Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials.</li> <li>Used to: <ul> <li>Teach tasks to individuals who have no prior knowledge of the task</li> <li>Teach tasks that are cumulative in nature (relationship between steps)</li> <li>Move individuals from worked examples to problem solving</li> </ul> </li> <li>Key points for success: <ul> <li>Ongoing evaluation of the Soldier's performance is required.</li> <li>The Facilitator determines when to remove instructional support based on Soldier performance.</li> </ul> </li> <li>Techniques include: <ul> <li>Together, the Facilitator and Solider perform a series of trials (attempts).</li> <li>In early learning trials, both the Soldier and the Facilitator are involved in performing task steps.</li> <li>In later learning trials, more and more of the task steps are performed by the Soldier alone.</li> </ul> </li> </ul>	
Fire	Observe	Wear	ENTER AND CLEAR A ROOM BACKWARDS FADING	
			TRIALS         STEPS       First the facilitator demonstrates the task from beginning to end while the Soldiers watch.         Image: Steps and the state of the steps and the state of the	

Edit View Favorites I	ools Help	Unioau		
Fire	Observe	Wear	alone.	
			ENTER AND CLEAR A ROOM	BACKWARDS FADING
			TRIALS	<ul> <li>First the facilitator demonstrates the task from beginning to end while the Soldiers watch.</li> <li>Trial 1 - Begins as a guided demonstration in other words, each Soldier watches and minis the task stops performed by the facilitator. There are no 'Soldier only' steps in this trial.</li> <li>Trial 2 - The facilitator and the Soldiers perform the first four task steps and the Soldiers perform the last task step alone.</li> <li>Trial 3 - The facilitator and the Soldiers perform the first three task steps and the Soldiers perform the last task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps and the Soldiers perform the last three task steps alone.</li> <li>Trial 5 - The facilitator and the Soldiers perform the last three task steps alone.</li> <li>Trial 6 - The Soldiers complete the whole task by themselves.</li> </ul>

## Appendix E

Military Task Examples P1-Imitation / Small Group / Familiar with Task

Instructional Methods Tool	
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Task Variables	
Action Verb	Recommended Methods and Sequence of Instruction
	Choose the method of instruction based on the "Time of Instruction" for the ELO.
Enter	Time of Method of Instruction
Performance Level	Instruction Thour Demonstration to provide a quick review, then PE
P1 - Imitation	2 hours Demonstration, followed by first PE, Facilitator feedback, followed by
Definition	second PE
To go into or upon.	4-8 hours if Multiple practice sessions with Facilitator feedback possible
Group Size	
1:16 or less	Key Points for Success
1:17 or greater	Key Points for Success
Experience	Facilitator Considerations
New to task No task knowledge, no fundamentals.	Practical Exercise Considerations
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Demonstration Considerations V
O Proficient with task	Peer-to-Peer Learning Considerations
Definitive task knowledge, executes the fundamentals.	Other Considerations 🗸
Other Verbs at the same Physical	Peer-to-Peer Example
Level	Forward Chaining Example

Don

Enter

Tim.

Mark

Mount

Ohenny

Transmit

Unload

Mann

Instructional Methods Tool	
Home About Tool Physical Verb	s Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Le
Task Variables	Recommended Methods and Sequence of Instruction
Action Verb	Recommended methods and sequence of instruction
Enter	Key Points for Success
Performance Level	• Assess Soldiers to determine their proficiency before assigning as peer-coaches. 🚔
P1 - Imitation	<ul> <li>Consider increasing the level of task complexity if the instruction is scheduled for more than 1 day</li> </ul>
Definition	<ul> <li>Select PE method based on when feedback for performing that task can be given.</li> <li>If feedback is provided only upon completion of all task components,</li> </ul>
To go into or upon.	backwards chaining is recommended. • If feedback can be provided after completion of each task component, forward
Group Size	<ul> <li>Intereducid can be provided after completion of each task component, forward, chaining is recommended.</li> </ul>
1:16 or less	
O 1:17 or greater	Facilitator Considerations 🗸 🗸
Experience	Practical Exercise Considerations
New to task No task knowledge, no fundamentals.	Demonstration Considerations 🗸 🗸 🗸
Familiar with task     Preliminary task knowledge, understands fundamentals.	Peer-to-Peer Learning Considerations
O Proficient with task	Other Considerations 🗸
Definitive task knowledge, executes the fundamentals.	Peer-to-Peer Example
	r der tor der example

E-3

Disconnect

Dismantle

Distribute

Don

Enter

Tim

Issue

Load

Mark

Mount

Ohenny

Lubricate

Receive

Submit

Transmit

Unload

Mane

Send

Home       About Tool       Physical Verbs       Cognitive Verbs       Affective Domain       Methods of Instruction Crosswalk       Admin         Task Variables       Corr       Image: Correlation Construction Crosswalk       Admin       Image: Correlation Construction Crosswalk       Admin         Action Verb       Correlation Correlation Correlation Correlation Correlation Construction Crosswalk       Recommended Methods and Sequence of Instruction       Image: Correlation Constitution Correlation Correlation Correlation Constitution Correlation Constitution Correlation Constitution Constitution Correlation Constitution Constitution Constitution Constitution Constitution Constitution Correlation Constitution Constituting Constitating Constation Constitation Constation Constitation Co	Task Variables Creer Action Verb Enter Performance Level P1 - Imitation Definition To go into or upon.	Recommended Methods and Sequence of Instruction          Key Points for Success          Facilitator Considerations          Facilitators should:          • Assess Soldiers to determine proficiency before assigning as peer-coaches.
Action Verb       Recommended Methods and Sequence of Instruction         Enter       Image: Considerations         Performance Level       Image: Considerations         P1 - Imitation       Image: Considerations         Definition       - Assess Soldiers to determine proficiency before assigning as peer-coaches.         Image: Considerations       - Assess Soldiers to determine proficiency before assigning as peer-coaches.         Optimizing the singer coaches       - Assess Soldiers to determine proficiency and track progress in accomplishing the training objectives         Image: Construction       - Assess Soldier task proficiency:         Image: Construction       - After - to assess what the Soldier learned         Image: Construction       - Provide feablack.         Image: Construction       - Provide feablack.         Image: Constructine task knowledge, understands fundamentals. </th <th>Action Verb Enter Performance Level P1 - Imitation Definition To go into or upon.</th> <th>Key Points for Success          Facilitator Considerations          Facilitators should:          • Assess Soldiers to determine proficiency before assigning as peer-coaches.</th>	Action Verb Enter Performance Level P1 - Imitation Definition To go into or upon.	Key Points for Success          Facilitator Considerations          Facilitators should:          • Assess Soldiers to determine proficiency before assigning as peer-coaches.
Action Verb         Enter         Performance Level         P1 - Imitation         Definition         To go into or upon.         Group Size         ① 1:16 or less         ① 1:17 or greater         Experience         ① New to task         No task knowledge, understands fundamentals.         ① Familiar with task         Proficient with task         Perto-Peer Learning Considerations         Other Verbs at the same Physical         Level	Enter Y Performance Level P1 - Imitation Definition To go into or upon.	Key Points for Success          Facilitator Considerations          Facilitators should:          • Assess Soldiers to determine proficiency before assigning as peer-coaches.
Enter       Image: Second	Performance Level P1 - Imitation Definition To go into or upon.	Facilitator Considerations         Facilitators should:         • Assess Soldiers to determine proficiency before assigning as peer-coaches.
Performance Level         P1 - Imitation         Definition         To go into or upon.         Group Size         Image: 1:16 or less         1:17 or greater         Experience         New to task No task knowledge, no fundamentals.         Proficient with task Preliminary task knowledge, executes the fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level	Performance Level P1 - Imitation Definition To go into or upon.	Facilitators should:
P1 - Imitation         Definition         To go into or upon.         Group Size         Imitation         Imitation         Imitation         Group Size         Imitation         Imitation         Imitation         Imitation         Group Size         Imitation         Imitatit         Imitation	P1 - Imitation <b>Definition</b> To go into or upon.	Assess Soldiers to determine proficiency before assigning as peer-coaches.
Definition         To go into or upon.         Group Size         Image: 1:16 or less         1:17 or greater.         Experience         New to task No task knowledge, no fundamentals.         Proficient with task Preliminary task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Per-to-Peer Example	To go into or upon.	Assess Soldiers to determine proficiency before assigning as peer-coaches.
Group Size       identify peer-coaches         I:16 or less       During - to estimate understanding/proficiency and track progress in accomplishing the training objectives         I:17 or greater       After - to assess what the Soldier learned         Experience       New to task         New to task       Monitor to ensure peer coaches do not provide faulty information or procedural steps.         Provide feedback.       Monitor to ensure peer coaches do not provide faulty information or procedural steps.         Preliminary task knowledge, understands fundamentals.       Practical Exercise Considerations         Proficient with task       Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical       Other Considerations         Level       Peer-to-Peer Learning Considerations	Group Size	<ul> <li>Before – to determine the Soldier's level of understanding/proficiency and</li> </ul>
<ul> <li>After - to assess what the Soldier learned</li> <li>After - to assess what the Soldier learned</li> <li>Provide feedback.</li> <li>Monitor to ensure peer coaches do not provide faulty information or procedural steps.</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Peer-to-Peer Learning Considerations</li> <li>Other Considerations</li> </ul>		identify peer-coaches  • During – to estimate understanding/proficiency and track progress in
Experience       steps.         New to task       steps.         No task knowledge, no fundamentals.       Practical Exercise Considerations         Preliminary task knowledge, understands fundamentals.       Practical Exercise Considerations         Proficient with task       Demonstration Considerations         Definitive task knowledge, executes the fundamentals.       Peer-to-Peer Learning Considerations         Other Verbs at the same Physical       Other Considerations         Level       Peer-to-Peer Example		
No task knowledge, no fundamentals.       Practical Exercise Considerations         Image: Specific start in the start in	Experience	
Image: Second	No task knowledge, no fundamentals.	Practical Exercise Considerations
Definitive task knowledge, executes the fundamentals.     Peer-to-Peer Learning Considerations       Other Verbs at the same Physical     Other Considerations       Level     Peer-to-Peer Example	Preliminary task knowledge, understands fundamentals.	
Level Peer-to-Peer Example	0	Peer-to-Peer Learning Considerations
Level Peer-to-Peer Example	Other Verbs at the same Physical	Other Considerations 🗸 🗸
Disassemble Initialize Pack Forward Chaining Example		Peer-to-Peer Example
	Disassemble Initialize Pack	Forward Chaining Example

Enter

Mount

Chann.

Unload

View Fgvorites Tools	on and a second s		
Instructional	Methods T	ool	
+	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Task Varial			
	bles	Clear	Recommended Methods and Sequence of Instruction
Action Verb			Key Points for Success
Enter		×	
Performance L	evel		Facilitator Considerations
P1 - Imitation			Practical Exercise Considerations
Definition			After first receiving the demonstration as a refresher, Soldiers could practice and 🚔
To go into or upon.			demonstrate to the class as a check on learning.
Group Size			<ul> <li>After receiving feedback from the Facilitators, Soldiers who show proficiency could assist Soldiers who are rehearsing the procedures and who are performing</li> </ul>
<ul> <li>1:16 or less</li> </ul>			completion tasks. • More proficient Soldiers should assist in providing feedback and on-the-spot
1:17 or greate	r		corrections.
Experience			
O New to task			Demonstration Considerations
No task knowled	ige, no fundamental: task	<i>s</i> .	Peer-to-Peer Learning Considerations
		ands fundamentals.	Other Considerations
O Proficient with	n task <i>owledge, executes</i> :	the for the second of	
Definitive task kr	lowleage, executes l	the fundamentals.	Peer-to-Peer Example
Other Verb	s at the sa	me Physical	Forward Chaining Example
Level			Backwards Chaining Example

~

Lubricate

Mark

Mount

Ohenny

Distribute

Don

Enter

Tim

Submit

Transmit Unload

the second se	Help		
P1 - Imitation			Practical Exercise Considerations
Definition			Demonstration Considerations
To go into or upon.			
Group Size			The demonstration method of instruction helps people who learn well by modeling others. It provides an opportunity for targeted questions while drawing attention to specific
1:16 or less			details.
1:17 or greate	er		Used to:
Experience			Train manipulative and operative skills     Develop understandings
New to task	dge, no fundamentals	c.	Teach new practices     Gain acceptance of new and improved ways of doing things
Familiar with	task		Key points for success:
	nowledge, executes t	he fundamentals. me Physical Pack	<ul> <li>All necessary training resources must be present and functional.</li> <li>The demonstration must be rehearsed with Als (the demonstrator and Facilitator must stay in sync or Soldiers will have a tendency to become lost or lose interest).</li> <li>The Facilitator must ensure that Soliders have mastered the prior knowledge needed for the demonstration.</li> <li>Soldiers must be able to clearly observe the demonstration and hear what the Facilitator is saying.</li> <li>The result of skipped steps or steps performed incorrectly must be explained.</li> <li>Soldiers must be shown the responses they control and the cues to which they</li> </ul>
Disconnect	Issue	Receive	should react. Techniques include:
Dismantle Distribute Don Enter Fire	Load Lubricate Mark Mount Observe	Send Submit Transmit Unload Wear	<ul> <li>Soldiers watch but do not participate.</li> <li>Soldiers observe the demonstration and then execute each step after being demonstrated by the Facilitator.</li> <li>Soldiers perform steps during the demonstration. In this case, the Facilitator should:         <ul> <li>Ensure that all Soldiers have properly completed the step before starting the next step.</li> <li>Provide sufficient AIs to roam the classroom, assist Soldiers having difficulty, and ensure all Soldiers are performing each step properly</li> </ul> </li> </ul>
			Peer-to-Peer Learning Considerations
			Other Considerations

Instructiona	Mothode T			
	i Methous i	ool		
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Adv	min Lo
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Adv	nin Lo
Task Varia	ibles	Clear	Recommended Methods and Sequence of Instruction	~
Action Verb			Recommended methods and Sequence of Instruction	Ľ
Enter		~	Key Points for Success	~
Performance	evel		Facilitator Considerations	~
P1 - Imitation	ever		Practical Exercise Considerations	~
Definition			Demonstration Considerations	~
To go into or upon.			Peer-to-Peer Learning Considerations	~
Group Size			ree-to-reer Learning Considerations	
1:16 or less				
1:17 or great	er		through the interaction of equal-status individuals as opposed to the traditional teacher- Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights	
Experience			through practical experience.	
O New to task			In this instance, the P2P method of instruction for hands-on tasks is generally used to:	
No task knowle	dge, no fundamentals	t.	<ul> <li>Increase Soldier time-on-task</li> </ul>	
Familiar with			Key points to consider.	
	k knowledge, understa	ands fundamentals.	<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> </ul>	
Proficient with Definitive task k	th task <i>nowledge, executes t</i>	he fundamentals	<ul> <li>The P2P approach takes the Facilitator out of the "expert lecturer" role.</li> <li>Facilitators must monitor peer learning to ensure correct information is</li> </ul>	
permitte teen i	nomeoge, excepted t	ne n	disseminated.	
Other Verb	s at the sar	me Physical	<ul> <li>Soldier task proficiency must be assessed;</li> <li>Before – to determine the Soldier's level of understanding/proficiency and</li> </ul>	
	o at the oal	ne i njelou	identify peer-facilitators	
Level			<ul> <li>During – to estimate understanding/proficiency and track progress in accomplishing the training objectives</li> </ul>	
Disassemble	Initialize	Pack	<ul> <li>After – to assess what the Soldier learned</li> </ul>	
Disconnect	Issue	Receive	<ul> <li>P2P training places responsibility on the Soldiers to share ideas and resolve</li> </ul>	
Dismantle	Load	Send	differences.	

Home About Tool Physical Verbs ( Task Variables Clear Action Verb	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo		
Action Verb	Recommended Methods and Sequence of Instruction		
Enter	Key Points for Success		
Performance Level	Facilitator Considerations		
P1 - Imitation	Practical Exercise Considerations		
Definition	Demonstration Considerations		
To go into or upon.			
Group Size	Peer-to-Peer Learning Considerations		
1:16 or less	Other Considerations 🗸 🗸		
1:17 or greater	Learners can decide when (after which trial) to receive feedback		
Experience	<ul> <li>Feedback frequency may be less important than the individual's ability to</li> </ul>		
New to task No task knowledge, no fundamentals.	<ul> <li>choose or not choose feedback.</li> <li>Feeback may lead to more active involvement by the learner, and the learner increasing his effort during practice.</li> </ul>		
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>			
Proficient with task	Peer-to-Peer Example		
Definitive task knowledge, executes the fundamentals.	Forward Chaining Example		
Other Verbs at the same Physical	Backwards Chaining Example 🗸 🗸		

Mark

Mount

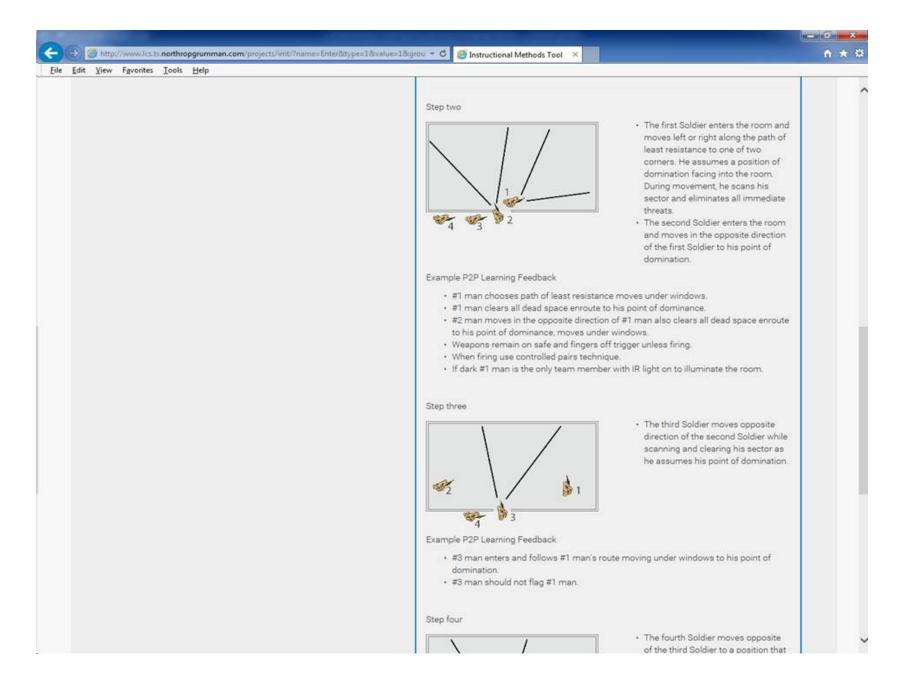
Transmit Unload

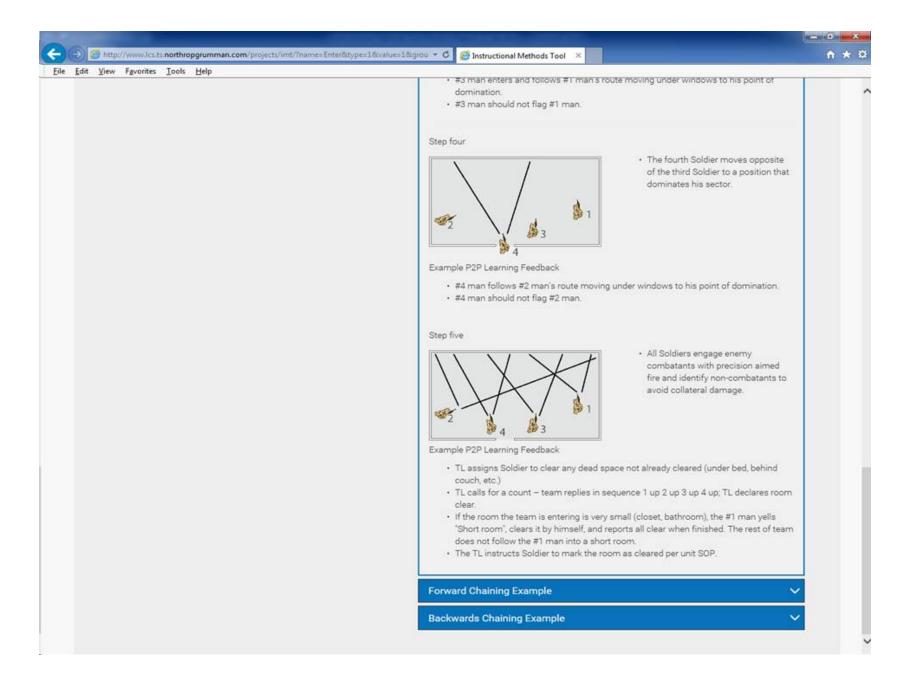
Don

Tim

Enter

1:16 or less			Other Considerations 🗸 🗸
1:17 or great	er		Peer-to-Peer Example
Experience			Task Number: 07-4-D9509
New to task No task knowle	dge, no fundamentals		Task Title: Enter and Clear a Room
Familiar with	task		The Facilitator and cadre demonstrate the entire task first as a refresher.
O Proficient wi Definitive task i	inowledge, executes t		<ul> <li>Soldiers familiar with the task could practice and demonstrate to the class as a check on learning.</li> <li>After receiving feedback from the Facilitators, Soldiers who show proficiency and are familiar with the task could assist Soldiers who are rehearsing the procedures and performing completion tasks.</li> <li>These Soldiers could provide peer-to-peer coaching while the less-experienced Soldiers are rehearsing, performing completion tasks, and being tested on their</li> </ul>
Level			performance of each task. • They can use their previous experience with tactics, techniques, and
Disassemble Disconnect Dismantle Distribute Don Enter Fire	Initialize Issue Load Lubricate Mark Mount Observe	Pack Receive Send Submit Transmit Unload Wear	procedures while providing feedback and on-the-spot corrections. Step One  The Soldiers form a 4-man stack outside of the room. The 2-man is the team leader and controls execution.
			<ul> <li>4 3 2 1</li> <li>Example P2P Learning Feedback</li> <li>360 degree security is maintained by the 4-man stack, or the support by fire position.</li> <li>#1 man checks around the door for tripwires.</li> <li>All Soldiers have their weapons on safe – fingers off triggers.</li> <li>All weapons are carried at the high ready with Soldiers looking over weapon sights.</li> <li>Rules of Engagement (ROE) and building construction determine type of grenade use.</li> <li>#4 man taps /whispers to #3 man, #3 man taps / whispers to #2 man (TL) that they are ready, and TL tells #1 man to "GO."</li> <li>If dark #1 man has infrared(IR) light on, entire team has Night Vision Devices (NVGs) on.</li> </ul>





## Appendix F

Military Task Examples P1-Imitation / Large Group / Familiar with Task

Instructional Methods Tool	
Instructional Methods Tool	
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo
Task Variables Cear	Recommended Methods and Sequence of Instruction
Action Verb	
Enter	Choose the method of instruction based on the "Time of Instruction" for the ELO.
	Time of Method of Instruction
Performance Level	Instruction     1 hour     Demonstration to provide a quick review then PE
P1 - Imitation	2 hours Demonstration, followed by first PE, Facilitator feedback, followed by
Definition	second PE
To go into or upon.	4-8 hours Multiple practice sessions with Facilitator feedback
Group Size	
1:16 or less	Key Points for Success
1:17 or greater	Facilitator Considerations
Experience	
New to task	Practical Exercise Considerations
No task knowledge, no fundamentals.	Demonstration Considerations
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Peer-to-Peer Learning Considerations
O Proficient with task	
Definitive task knowledge, executes the fundamentals.	Other Considerations V
Other Verbs at the same Physical	Peer-to-Peer Example
Other Verbs at the same Physical	
Level	Forward Chaining Example

~

Lubricate

Mark

Mount

Oheen

Distribute

Don

Tire.

Enter

Submit

Transmit Unload

Instructiona	l Methods T	ool	
Γ	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Varia	ables	Clear	
Action Verb			Recommended Methods and Sequence of Instruction
Enter		~	Key Points for Success
Performance	Level		Break large group into small groups for checks on learning.
P1 - Imitation			<ul> <li>Assess Soldiers to determine their proficiency before assigning them as peer coaches.</li> </ul>
Definition			<ul> <li>Increase the level of task complexity if the period of instruction is scheduled for more than 1 day.</li> <li>Select PE method based on when feedback can be given on task performance. <ul> <li>If feedback is provided only at the completion of all task components, backwards chaining is recommended.</li> <li>If feedback can be provided after the completion of each task component,</li> </ul> </li> </ul>
To go into or upon.			
Group Size			
0 1:16 or less			<ul> <li>If reedback can be provided after the completion of each task component, forward chaining is recommended.</li> </ul>
1:17 or great	ter		
Experience			Facilitator Considerations
New to task	dge, no fundamentals	L.	Practical Exercise Considerations
Familiar with	n task <i>k knowledge, understa</i>	ands fundamentals	Demonstration Considerations
O Proficient wi		ndo landamento.	Peer-to-Peer Learning Considerations
Definitive task I	knowledge, executes i	the fundamentals.	Other Considerations
Other Verb	os at the sar	me Physical	Peer-to-Peer Example
Level			Forward Chaining Example
Disassemble	Initialize	Pack	Backwards Chaining Example
Disconnect	Issue	Receive	

Home       About Tool       Physical Verbs       Cognitive Verbs       Affective Domain       Methods of Instruction Crosswalk       Admin         Task Variables       See         Action Verb       See         Action Verb       See         Enter       See         Performance Level       See         P1-Imitation       See         Definition       See				
Action Verb       Recommended Methods and Sequence of Instruction       Instruction         Enter       Image: Second Sec		Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admi
Action Verb         Enter         Performance Level         P1 - Imitation         Definition         To go into or upon.         Group Size         ① 1:16 or less         ② 1:17 or greater         Experience         ① New to task No task knowledge, no fundamentals.         ② Familiar with task Definitive task knowledge, understande fundamentals.         ③ Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Disassemble       Initialize         Disassemble       Initialize         Disassemble       Initialize         Disconnect       Issue         Disconnect       Issue         Disconnect       Issue         Distribute       Lubricate	Task Varia	bles	Clear	
Enter       Image: Second	Action Verb			
Performance Level         P1 - Imitation         Definition         To go into or upon.         Group Size         1:16 or less         0 1:16 or less         0 1:17 or greater.         Experience         • New to task Mo task knowledge, on fundamentals.         • Proficient with task Definitive task knowledge, understands fundamentals.         • Proficient with task Definitive task knowledge, executes the fundamentals.         • Proficient with task Definitive task knowledge, executes the fundamentals.         • Other Verbs at the same Physical Level         Disassemble       Initialize       Pack Send         Disassemble       Initialize       Pack Send         Disassemble       Initialize       Pack Send         Distribute       Lubricate       Send         Distribute       Lubricate       Send	Enter		~	Key Points for Success
Definition         To go into or upon.         Group Size         1:16 or less         1:17 or greater         Experience         New to task No task knowledge, understands fundamentals.         Proficient with task Preliminary task knowledge, understands fundamentals.         Other Verbs at the same Physical Level         Disassemble       Initialize         Disassemble       Initialize         Disassemble       Initialize         Disassemble       Initialize         Disassemble       Initialize         Disassemble       Initialize         Disastive       Serie         Disastemble       Loving and the submit	Performance	Level		Facilitator Considerations
Definition         To go into or upon.         Group Size         1:16 or less         1:17 or greater         Experience         New to task No task knowledge, no fundamentals.         Pranillar with task Preliminary task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Disassemble       Initialize       Pack Receive         Disassemble       Initialize       Pack Stending         Disassemble       Initialize       Pack Stending	P1 - Imitation			Facilitators should:
To go into or upon.       coaches.         Group Size       1:16 or less         1:17 or greater       2.117 or greater         Experience       2.117 or greater         New to task No task knowledge, no fundamentals.       2.0110 - to estimate the Soldier's understanding/proficiency and track progress in accomplishing the training objectives.         P Familiar with task Peliminary task knowledge, understands fundamentals.       Provide feedback.         Proficient with task Definitive task knowledge, executes the fundamentals.       Practical Exercise Considerations         Other Verbs at the same Physical       Peer-to-Peer Learning Considerations         Level       Other Considerations         Disassemble       Initialize       Pack         Disconnect       Issue       Receive         Disconnect       Issue       Send         Distribute       Lubricate       Submit	Definition			
Group Size <ul> <li>Assess Soldier task proficiency:</li> <li>Before - to determine the Soldier's level of understanding/proficiency and track progress in accomplishing the training objectives</li> <li>During - to estimate the Soldier's understanding/proficiency and track progress in accomplishing the training objectives</li> <li>After - to assess what the Soldier's understanding/proficiency and track progress in accomplishing the training objectives</li> <li>Mew to task Now to task Now tedge, no fundamentals.</li> <li>Pamiliar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send</li> <li>Pask Miniter Unbrigate Submit</li> <li>Provide Chaining Example</li> <li>Forward Chaining Example</li> <li>Forward Chaining Example</li> <li>Provide Chaining Example<td colspan="3">To go into or upon.</td><td></td></li></ul>	To go into or upon.			
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send Distribute Lubricate Submit</li> <li>Itage Send Distribute Lubricate Submit</li> <li>Itage Send</li> <li>Itage Send<td>Croup Size</td><td></td><td></td><td><ul> <li>Assess Soldier task proficiency.</li> </ul></td></li></ul>	Croup Size			<ul> <li>Assess Soldier task proficiency.</li> </ul>
<ul> <li>1:17 or greater</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send</li> <li>Distribute</li> <li>Uuring - to estimate the Soldier's understanding/proficiency and track progress in accomplishing the training objectives</li> <li>After - to assess what the Soldier learned</li> <li>Provide feedback.</li> <li>Monitor to ensure peer coaches do not provide faulty information or procedural steps.</li> <li>Practical Exercise Considerations</li> <li>Demonstration Considerations</li> <li>Peer-to-Peer Learning Considerations</li> <li>Peer-to-Peer Example</li> <li>Forward Chaining Example</li> <li>Verorad Chaining Example</li> </ul>				
Experience       • After - to assess what the Soldier learned         • New to task       • Provide feedback.         • No task knowledge, no fundamentals.       • Monitor to ensure peer coaches do not provide faulty information or procedural steps.         • Familiar with task       Preliminary task knowledge, understands fundamentals.         • Proficient with task       Proficient with task         Definitive task knowledge, executes the fundamentals.       Practical Exercise Considerations         Other Verbs at the same Physical       Peer-to-Peer Learning Considerations         Level       Other Considerations         Disassemble       Initialize         Disassemble       Initialize         Pack       Peer-to-Peer Example         Dismantle       Load         Distribute       Send         Distribute       Submit	<u> </u>	er		
<ul> <li>Provide reedback.</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble Initialize Pack Disconnect Issue Receive Dismantle Load Send Distribute Lubricate Submit</li> <li>Provide reedback.</li> <li>Monitor to ensure peer coaches do not provide faulty information or procedural steps.</li> <li>Monitor to ensure peer coaches do not provide faulty information or procedural steps.</li> <li>Practical Exercise Considerations</li> <li>Peer-to-Peer Learning Considerations</li> <li>Peer-to-Peer Example</li> <li>Forward Chaining Example</li> </ul>	Experience			<ul> <li>After – to assess what the Soldier learned</li> </ul>
No task knowledge, no fundamentals.       steps.         Image: Steps.       Steps.         Image: Steps.       Practical Exercise Considerations         Image: Steps.       Image: Steps.         Image: Steps.       Practical Exercise Considerations         Image: Steps.       Image: Steps.         Image: Steps.       Image: Steps.         Image: Steps.       Practical Exercise Considerations         Image: Steps.       Image: Steps.         Image: Steps.				
Preliminary task knowledge, understands fundamentals.       Practical Exercise Considerations <ul> <li>Practical Exercise Considerations</li> <li>Demonstration Considerations</li> <li>Demonstration Considerations</li> <li>Peer-to-Peer Learning Considerations</li> <li>Other Verbs at the same Physical Level</li> <li>Disassemble</li> <li>Initialize</li> <li>Pack</li> <li>Desconnect</li> <li>Issue</li> <li>Receive</li> <li>Dismantle</li> <li>Load</li> <li>Send</li> </ul> Peer-to-Peer Example           Distribute         Lubricate         Submit           Distribute         Lubricate         Submit           Distribute         Submit         Submit           Distribute         Submit         Submit           Distribute         Submit         Submit	0	dge, no fundamentals	e -	
Proficient with task       Demonstration Considerations         Definitive task knowledge, executes the fundamentals.       Demonstration Considerations         Other Verbs at the same Physical       Peer-to-Peer Learning Considerations         Level       Other Considerations         Disassemble       Initialize         Disconnect       Issue         Receive       Peer-to-Peer Example         Dismantle       Load         Distribute       Submit				
Definitive task knowledge, executes the fundamentals.       Demonstration Considerations          Other Verbs at the same Physical       Peer-to-Peer Learning Considerations          Level       Other Considerations          Disassemble       Initialize       Pack       Peer-to-Peer Example          Disconnect       Issue       Receive       Peer-to-Peer Example          Dismantle       Load       Send       Forward Chaining Example			inds fundamentals.	Practical Exercise Considerations
Other Verbs at the same Physical       Level     Other Considerations       Disassemble     Initialize       Pack     Peer-to-Peer Example       Disconnect     Issue       Receive     Forward Chaining Example       Distribute     Lubricate	<u> </u>		he fundamentals.	Demonstration Considerations
Level     Other Considerations        Disassemble     Initialize     Pack     Peer-to-Peer Example        Disconnect     Issue     Receive     Forward Chaining Example        Distribute     Lubricate     Submit	Other Verb	os at the sar	ne Physical	Peer-to-Peer Learning Considerations
Disassemble initialize Pack Disconnect Issue Receive Dismantle Load Send Distribute Lubricate Submit				Other Considerations
Dismantle Load Send Forward Chaining Example	Disassemble	Initialize	Pack	Peer-to-Peer Example
Distribute Lubricate Submit				Forward Chaining Example
				Packwarde Chaining Example

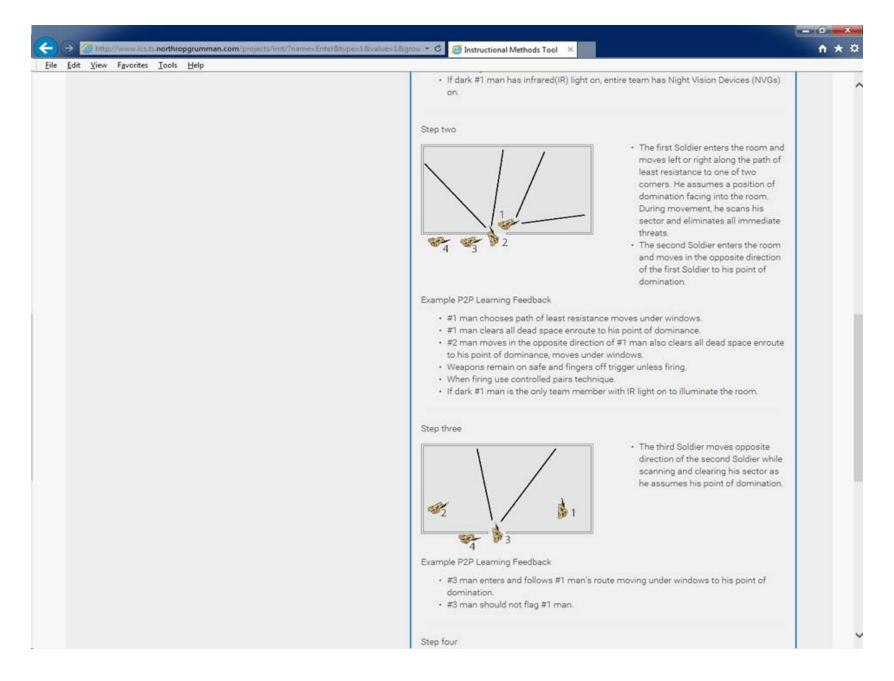
	l Methods T	001	
Γ	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Varia	bles	Clear	Recommended Methods and Sequence of Instruction
Action Verb			Key Points for Success
Enter			
Performance I	Level		Facilitator Considerations
P1 - Imitation			Practical Exercise Considerations
Definition			After first receiving the demonstration as a refresher, Soldiers could practice and 🚘
To go into or upon.			<ul> <li>demonstrate to the class as a check on learning.</li> <li>After receiving feedback from the Facilitators, Soldiers who show proficiency could</li> </ul>
Group Size			assist Soldiers who are rehearsing the procedures and who are performing completion tasks.
0 1:16 or less			<ul> <li>More proficient Soldiers should assist in providing feedback and on-the-spot</li> </ul>
1:17 or great	er		corrections.
Experience			Demonstration Considerations
New to task No task knowled	dge, no fundamentals	e	
Familiar with			Peer-to-Peer Learning Considerations
1	k knowledge, understa	nds fundamentals.	Other Considerations
Proficient with Definitive task k	tn task mowledge, executes t	he fundamentals.	Peer-to-Peer Example
Other Verb	os at the sar	me Physical	Forward Chaining Example
Level			Backwards Chaining Example
Disassemble	Initialize	Pack	
Disconnect	Issue	Receive	
Dismantle	Load	Send	

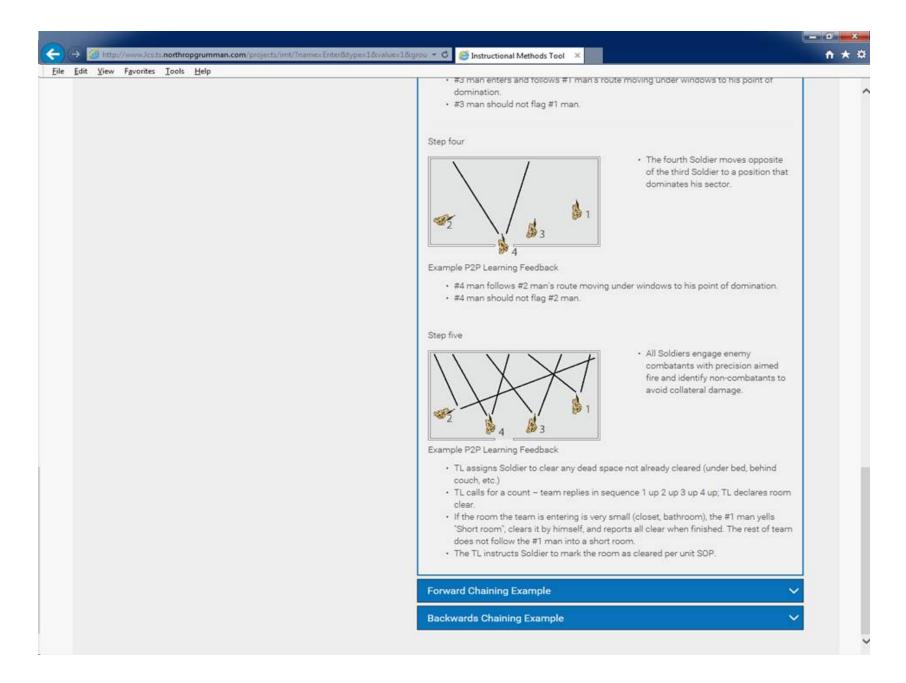
Action Verb			
			Key Points for Success
Enter		~	Facilitator Considerations
Performance Level			
P1 - Imitation			Practical Exercise Considerations
Definition			Demonstration Considerations
To go into or upon.			
Group Size			The demonstration method of instruction helps people who learn well by modeling others. It provides an opportunity for targeted questions while drawing attention to specific
1:16 or less			details.
1:17 or greater			Used to:
Experience			Train manipulative and operative skills     Develop understandings
New to task			Teach new practices
No task knowledge, no l	fundamentals.		Gain acceptance of new and improved ways of doing things
<ul> <li>Familiar with task Preliminary task knowle</li> </ul>	daa undareta	nde fundamentale	Key points for success:
Proficient with task		nuo tunuarnemaro.	<ul> <li>The Facilitator must rehearse prior to presenting the demonstration.</li> <li>All necessary training resources must be present and functional.</li> </ul>
Definitive task knowledg		he fundamentals.	<ul> <li>The demonstration must be rehearsed with Als (the demonstrator and Facilitator must stay in sync or Soldiers will have a tendency to become lost or lose interest).</li> </ul>
			The Facilitator must ensure that Soliders have mastered the prior knowledge needed
Other Verbs at	the sar	ne Physical	for the demonstration.   Soldiers must be able to clearly observe the demonstration and hear what the
Level			Facilitator is saying.
	for the second		<ul> <li>The result of skipped or steps performed incorrectly must be explained.</li> <li>Soldiers must be shown the responses they control and the cues to which they</li> </ul>
Disassemble Init Disconnect Iss	ialize ue	Pack Receive	should react.
Dismantle Loa		Send	Techniques include:
	bricate	Submit	<ul> <li>Soldiers watch but do not participate.</li> <li>Soldiers observe the demonstration and then execute each step after being</li> </ul>
Don Ma Enter Mo	irk iunt	Transmit Unload	<ul> <li>demonstrated by the facilitator.</li> </ul>
	serve	Wear	Soldiers perform steps during the demonstration. In this case, the facilitator should:
		0.03370	<ul> <li>Ensure that all Soldiers have properly completed the step before starting the next step.</li> </ul>
			<ul> <li>Provide sufficient Als to roam the classroom, assist Soldiers having difficulty,</li> </ul>
			and insure all Soldiers are performing each step properly

Instructiona					
	l Methods T	ool			
ſ	Home About	Fool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admir		
Task Varia	bles	Clear	Recommended Methods and Sequence of Instruction		
Action Verb					
			Key Points for Success		
Performance I	Level	<b></b>	Facilitator Considerations		
P1 - Imitation			Practical Exercise Considerations		
Definition			Demonstration Considerations		
To go into or upon.			Peer-to-Peer Learning Considerations		
Group Size					
1:16 or less			The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals as opposed to the traditional teacher-		
1:17 or great	er		Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights		
Experience			through practical experience.		
O New to task			In this instance, the P2P method of instruction for hands-on tasks is generally used to: <ul> <li>Increase Soldier time-on-task</li> </ul>		
	dge, no fundamentals	8			
Familiar with Preliminary task	i task k <i>knowledge, understa</i>	inde fundamentale	Key points to consider:		
O Proficient wi			<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> <li>The P2P approach takes the Facilitator out of the "expert lecturer" role.</li> </ul>		
0	nowledge, executes t	he fundamentals.	<ul> <li>Facilitators must monitor peer learning to ensure correct information is disseminated.</li> <li>Soldier task proficiency must be assessed.</li> </ul>		
Other Verb	is at the sar	ne Physical	<ul> <li>Before – to determine the Soldier's level of understanding/proficiency and</li> </ul>		
Level			identify peer-facilitators <ul> <li>During – to estimate understanding/proficiency and track progress in</li> </ul>		
			accomplishing the training objectives		
Disassemble	Initialize	Pack	<ul> <li>After – to assess what the Soldier learned</li> <li>P2P training places responsibility on the Soldiers to share ideas and resolve</li> </ul>		
Disconnect Dismantle	Issue Load	Receive Send	differences.		
Distribute	Lubricate	Submit			
Don	Mark	Transmit	Other Considerations		

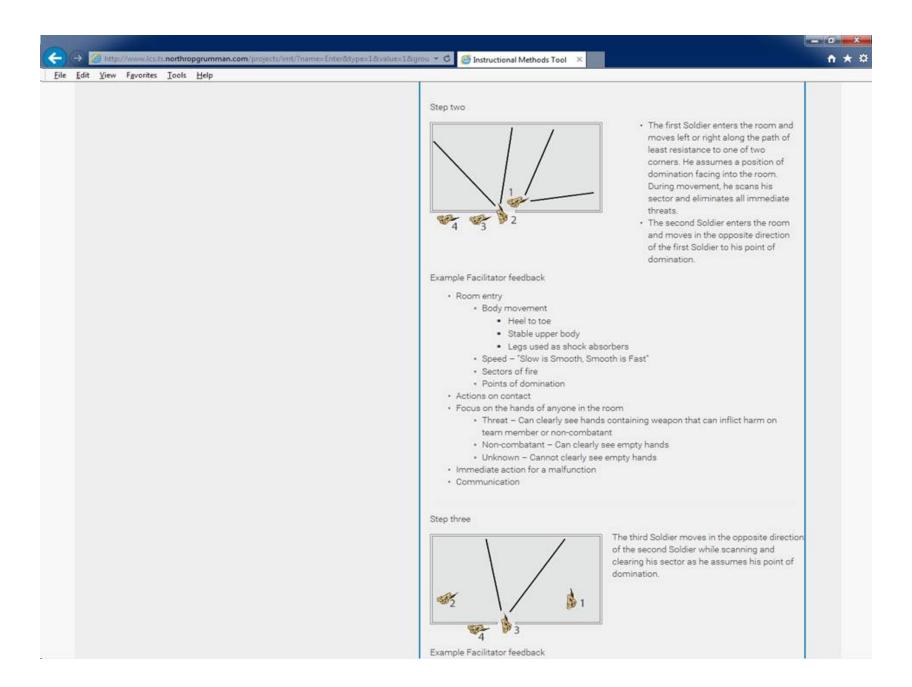
Instructiona	Mothode T				
Instructiona	i Methods I	001			
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin I		
Task Varia	bles	Clear			
Action Verb			Recommended Methods and Sequence of Instruction		
Enter		<b>~</b>	Key Points for Success V		
Performance I	evel		Facilitator Considerations		
P1 - Imitation			Practical Exercise Considerations		
Definition					
To go into or upon.					
Group Size			Peer-to-Peer Learning Considerations		
O 1:16 or less			Other Considerations 🗸		
1:17 or great	er		Learners can decide when (after which trial) to receive feedback		
Experience			<ul> <li>Feedback frequency may be less important than the individual's ability to choose or not choose feedback.</li> <li>Feeback may lead to more active involvement by the learner, and the learner increasing his effort during practice.</li> </ul>		
O New to task	1				
Familiar with	<i>dge, no fundamentals</i> task	L.			
	knowledge, underst	ands fundamentals.	Peer-to-Peer Example		
O Proficient wit	th task <i>nowledge, executes i</i>	he fundamentals.	Forward Chaining Example		
Other Verb	s at the sa	me Physical	Backwards Chaining Example		
Level					
Disassemble	Initialize	Pack			
Disconnect	Issue	Receive			
Dismantle	Load	Send			

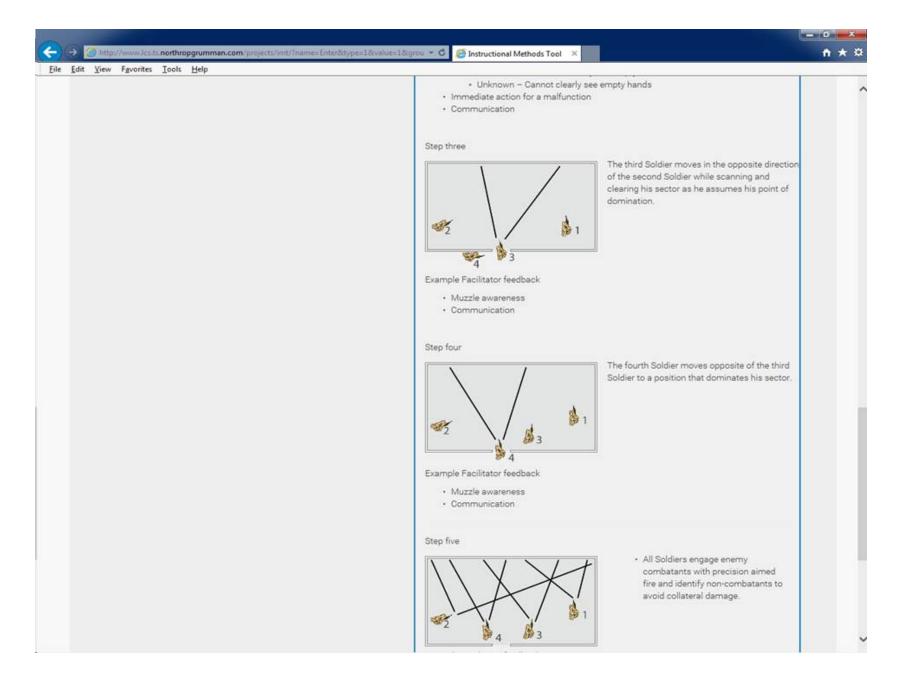
perience		
New to task	Task Number: 07-4-D9509	
No task knowledge, no fundamentals.	Task Title: Enter and Clear a Room	
Familiar with task Preliminary task knowledge, understands fundamentals.	<ul> <li>The Facilitator and cadre demonstrate the entire task first as a refresher.</li> <li>Soldiers familiar with the task could practice and demonstrate to the class as a check</li> </ul>	
Proficient with task Definitive task knowledge, executes the fundamentals.	<ul> <li>on learning.</li> <li>After receiving feedback from the Facilitators, Soldiers who show proficiency and are familiar with the task could assist Soldiers who are rehearsing the procedures and performing completion tasks.</li> <li>These Soldiers could provide peer-to-peer coaching while the less-experienced Soldiers are rehearsing, performing completion tasks, and being tested on their performance of each task.</li> <li>They can use their previous experience with tactics, techniques, and procedures while providing feedback and on-the-spot corrections.</li> </ul>	
her Verbs at the same Physical		
vel		
assemble Initialize Paok connect Issue Receive mantle Load Send tribute Lubricate Submit n Mark Transmit er Mount Unload e Observe Wear	<ul> <li>Step One</li> <li>1 The Soldiers form a 4-man stack outside of the room.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 3 The 2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>2 The 2-man is the team leader and controls execution.</li> <li>3 Soldiers have the seedback.</li> <li>3 Soldiers have their weapons on safe - fingers off triggers.</li> <li>3 All weapons are carried at the high ready with Soldiers looking over weapon sights.</li> <li>3 Rules of Engagement (ROE) and building construction determine type of grenade use.</li> <li>3 # Aman taps / whispers to #3 man, #3 man taps / whispers to #2 man (TL) that they are ready, and TL tells #1 man to "GO.".</li> <li>3 If dark #1 man has infrared(IR) light on, entire team has Night Vision Devices (NVGs)</li> </ul>	

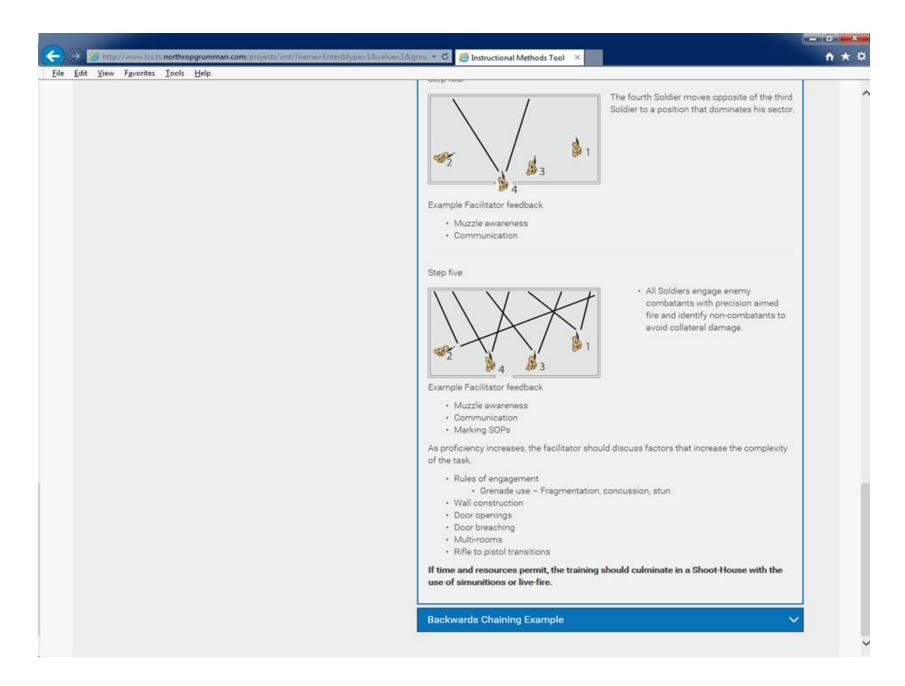




dit View Favorites Iools	Heib			
0 1:16 or less			Other Considerations	
1:17 or greater			Peer-to-Peer Example	
Experience				
New to task No task knowledg	e, no fundamentals			
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> </ul>			Task Number: 07-4-D9509         Task Title: Enter and Clear a Room         The Facilitator and cadre demonstrate the entire task to the Soldiers after depicting the desired end state.         The Facilitator should use a method that allows the Soldier to view the entire task and the movements of each individual (tape house, glass house, short boards, etc.).	
	Other Verbs at the same Physical			
Level			The Facilitator should then use the crawl, walk, run process during training: <ul> <li>Crawl – The Facilitator moves each Soldier into position at a slow pace.</li> </ul>	
Disassemble Disconnect Dismantle Don Enter Fire	Initialize Issue Load Lubricate Mark Mount Observe	Pack Receive Send Submit Transmit Unfoad Wear	<ul> <li>Walk - The Soldiers move themselves into position at a slow pace.</li> <li>Run - The Soldiers move into position at a faster pace.</li> <li>Step One <ul> <li>The Soldiers form a 4-man stack outside of the room.</li> <li>The Soldiers form a 4-man stack outside of the room.</li> <li>The 2-man is the team leader and controls execution.</li> </ul> </li> <li>The distance between Soldiers should allow: <ul> <li>Communication by</li> <li>Hand and arm signals</li> <li>Low voice</li> <li>Movement through the door</li> <li>Speed</li> <li>Violence of action</li> </ul> </li> <li>Communication indicating team member readiness should flow from the 4-man to the 2-man.</li> <li>The 2-man signals the 1-man to enter.</li> </ul>	







ew Favorites Tool	s <u>H</u> elp			
			Key Points for Success	
Enter		<b>`</b>	Facilitator Considerations	
Performance	Level		Practical Exercise Considerations	
Definition         To go into or upon.         Group Size         1:16 or less         1:17 or greater         Experience         New to task No task knowledge, no fundamentals.         Familiar with task Preliminary task knowledge, understands fundamentals.         Proficient with task				
			Demonstration Considerations	
			Peer-to-Peer Learning Considerations	
			Other Considerations	
			Peer-to-Peer Example	
			Forward Chaining Example	
			Backwards Chaining Example	
			The Soldiers are shown/practice/complete the last step/component of the task before elements are shown in the beginning step/component.	
	knowledge, executes t		Complete last step first (Step 5). Show the Soldiers the desired end state.	
Level	JS at the Sal	The Physical	STEP 1	
Disassemble Disconnect Dismantle Distribute Don Enter Fire	Initialize Issue Load Lubricate Mark Mount Observe	Pack Receive Send Submit Transmit Unload Wear	STEP 2 Forward Chaining STEP 3 STEP 4 STEP 5	

# Appendix G

Military Task Examples P2+P3 – Manipulation and Precision / Small Group / Familiar with Task

I	Home About	Tool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo	
Task Varia	ables	Clear	Recomme	nded Methods and Sec	quence of Instruction	~	
Action Verb							
Perform		~	Choose the	Choose the method of instruction based on the "Time of Instruction" for the ELO.			
Performance Level P3 - Precision Definition To carry out an action or pattern of behavior. Group Size  1:16 or less 1:17 or greater			Time of Instruction	Method of Instruction			
			2 hours		actical exercise and Facilitator feedback		
			4-8 hours	4-8 hours Demonstration, then multiple practice sessions using training aids or actual equipment. Additional procedural information and demonstration of more advanced techniques and skill should occur prior to PEs. Facilitator feedback is essential.		more	
			Multiple Da	proficiency tests could	as and practice opportunities; more rigorous be implemented. Additional procedural inform complex tasks should be provided prior to the essential.	0.000 0.000 0.000	
xperience							
New to task	edge, no fundamentals		Key Points	Key Points for Success V			
Familiar wit	h task		Facilitator	Considerations		~	
Preliminary ta: Proficient w	<i>sk knowledge, understa</i> ith task	inds fundamentals.	Practical E	Practical Exercise Considerations			
Definitive task	knowledge, executes t	he fundamentals.	Demonstra	Demonstration Considerations ~ Facilitator Induced Errors Example ~		~	
Other Ver	bs at the sar	me Physical	Facilitator			~	
evel			Backward	s Fading Example		~	
			1 1000				
st. mble	Extend Extract Forward	Post Prepare Prevent	Memory J	oggers		~	

Camouflage

Clear

Close

Collect

Comply

Complete

Fuel

Guard

Input

Inspect

Install

Implement

Process

Produce

Protect

Provide

Publish

Record

Instructional Methods Tool					
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L				
Task Variables	Recommended Methods and Sequence of Instruction				
Action Verb					
Perform	Key Points for Success V				
Performance Level	<ul> <li>Provide Soldiers the correct general pattern of the task to ensure they practice the </li> </ul>				
P3 - Precision	right actions. <ul> <li>Ensure the Soldiers know the task first before providing a significant amount of</li> </ul>				
Definition	<ul> <li>explanation.</li> <li>Offer PEs across varied contexts enabling Soldiers to learn the deep structural aspects of the procedures even if the surface level conditions change.</li> <li>Soldiers should practice in the greatest variety of situations they can handle.</li> <li>Facilitators should watch Soldiers intently to provide prompt and accurate feedback and to help them avoid establishing faulty habits.</li> </ul>				
To carry out an action or pattern of behavior.					
Group Size					
1:16 or less					
1:17 or greater					
Experience	Facilitator Considerations V				
New to task	Practical Exercise Considerations				
No task knowledge, no fundamentals.	Demonstration Considerations				
<ul> <li>Familiar with task</li> <li>Preliminary task knowledge, understands fundamentals.</li> </ul>	Facilitator Induced Errors Example				
Proficient with task					

Adjust	Extend	Post
Align	Extract	Prepare
Assemble	Forward	Prevent
Camouflage	Fuel	Process
Clear	Guard	Produce
Close	Implement	Protect
Collect	Immut	Devide

Task Variat Action Verb	ome About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin				
Action Verb	oles	Clear					
			Recommended Methods and Sequence of Instruction				
Perform							
Perform			Key Points for Success				
Performance Le	evel		Facilitator Considerations				
P3 - Precision			Facilitators should:				
Definition To carry out an action or pattern of behavior. Group Size 1:16 or less 1:17 or greater			<ul> <li>Demonstrate the task.</li> <li>Provide the Soldiers with multiple PEs.</li> <li>Induce errors/faults within the PEs.</li> <li>Ask Soldiers to explain their thought processes while troubleshooting the errors/faults.</li> </ul>				
					<ul> <li>Provide feedback for letting the Soldiers know where they are making error.s</li> <li>Ask the Soldiers why they think they are making these errors in a new context.</li> </ul>		
					Provide additional procedural information as required in order for the Soldiers to		
			Experience			successfully complete the exercises.  • Reduce scaffolds until Soldiers are operating, creating, and navigating on their own	
			New to task			without errors. • Provide multiple varied examples and determine if Soldiers can perform these tasks	
<ul> <li>No task knowledg</li> <li>Familiar with tag</li> </ul>	e, no fundamentals. ack		<ul> <li>Provide matuple varied examples and determine in Golde's can perform these tasks in novel varied contexts.</li> <li>Provide resources to reduce cognitive load such as memory joggers, mathematical formulas, specs, etc.</li> </ul>				
	aan nowledge, understai	nds fundamentals.					
O Proficient with							
Definitive task kno	owledge, executes th	e fundamentals.	Practical Exercise Considerations				
Other Verbs	s at the san	ne Physical	Demonstration Considerations				
Level			Facilitator Induced Errors Example				
Adjust	Extend	Post	Backwards Fading Example				
Align Assemble	Extract Forward	Prepare Prevent					
Assemble Camouflage	Fuel	Process	Memory Joggers				
	Guard Implement	Produce					
Clear		FIGUIDE					

nstructiona	al Methods To	ool		
1	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Varia	ables	Clear	Recommended Methods and Sequence of Instruction	
Action Verb Perform Performance Level			Key Points for Success	
			Facilitator Considerations	
Definition			Present Soldiers with faults in the procedures/steps; have the Soldiers	
To carry out an ac	tion or pattern of behav	ior.	<ul> <li>troubleshoot these faults in order to successfully address the problems.</li> <li>Ask Soldiers to explain why they think they are performing certain errors.</li> </ul>	
Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>			<ul> <li>Provide additional practice opportunities while explaining their steps and errors, dependentiations their ability to teachlockept</li> </ul>	
			<ul> <li>demonstrating their ability to troubleshoot.</li> <li>Assess whether Soldiers can complete the entire task on their own with minimal</li> </ul>	
			errors.	
Experience			When possible:	
O New to task			<ul> <li>Use simulators, desktop trainers, etc. to provide Soldiers with varied performance examples and to test their performance of the procedural tasks</li> <li>Record the learner's performance using devices such as tape recorders for speech teachers and video cameras for coaches, etc.</li> <li>Strike a balance between explanation, practice, and further explanation.</li> <li>Provide "just-in-time information", critical information at key points in performing the</li> </ul>	
No task knowle	edge, no fundamentals.			
Familiar with				
Preliminary tas     Proficient w	ik knowledge, understal itte tooli	nds fundamentals.		
0	knowledge, executes ti	e fundamentals.	task (i.e., not all before performing the task).	
			<ul> <li>Judge progress in terms of technique vice output.</li> <li>Allow individuals to choose if and when they will receive feedback, which may lead to</li> </ul>	
Other Verl	bs at the sar	ne Physical	more active learner involvement, and increase efforts during practice.	
Level				
10			Demonstration Considerations	
Adjust Align	Extend Extract	Post Prepare	Facilitator Induced Errors Example	
Assemble	Forward	Prevent	Pankuarda Eading Evample	
Camouflage	Fuel	Process	Backwards Fading Example	
Clear	Guard Implement	Produce Protect	Memory Joggers	
Collect	Implement	Protect		

 iew Fgvorites Tools		s/imt/Tname=Perform&type=1&	Ecvalue=38:g * C C Instructional Methods Tool ×		
P3 - Precision	a <del>175.8</del> 6		Practical Exercise Considerations		
Definition			Demonstration Considerations		
To carry out an actio	n or pattern of behav	ior.	The demonstration method of instruction helps people who learn well by modeling		
Group Size					
(a) 1:16 or less			others. It provides an opportunity for targeted questions while drawing attention to specific details.		
1:17 or greater			Used to:		
			Train manipulative and operative skills		
Experience			<ul> <li>Develop understandings</li> <li>Teach new practices</li> <li>Gain acceptance of new and improved ways of doing things</li> </ul>		
O New to task					
No task knowledge, no fundamentals.					
Familiar with t Continue to the familiar		de la demonde la	Key points for success:		
	knowledge, understar	as tundamentais.	<ul> <li>The Facilitator must rehearse prior to presenting the demonstration.</li> <li>All necessary training resources must be present and functional.</li> </ul>		
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul>			<ul> <li>The demonstration must be rehearsed with Als (the demonstrator and Facilitator must stay in sync or the Soldiers will have a tendency to become lost or lose interest).</li> </ul>		
Other Verb	s at the san	ne Physical	The Facilitator must ensure that Soldiers have mastered the prior knowledge needed		
Level			for the demonstration.   Soldiers must be able to clearly observe the demonstration and hear what the		
			Facilitator is saying		
Adjust	Extend	Post	The result of skipped steps and steps performed incorrectly must be explained.		
Align	Extract	Prepare	<ul> <li>Soldiers must be shown the responses they control and the cues to which they should react.</li> </ul>		
Assemble	Forward	Prevent	Techniques include:		
Camouflage	Fuel	Process			
Clear	Guard	Produce	Soldiers watch but do not participate.		
Close	Implement	Protect	<ul> <li>Soldiers observe the demonstration and then execute each step after it being demonstrated by the Facilitator.</li> </ul>		
Collect	Input	Provide	<ul> <li>Soldiers perform steps during the demonstration. In this case, the Facilitator should:</li> </ul>		
Complete	Inspect	Publish	Ensure that all Soldiers have properly completed the step before starting the		
Comply	Install	Record	next one.		
Configure	Inventory	Recover	<ul> <li>Provide sufficient Als to roam the classroom, assist Soldiers having difficulty,</li> </ul>		
Connect	Lay	Reduce	and ensure all Soldiers are performing each step properly.		
Construct	Lead	Refine			
Control	Maintain	Release			
Correct	Measure	Relocate	Facilitator Induced Errors Example		
Counter	Monitor	Remove			
Cross	Move	Repair	Backwards Fading Example		
01033					

P3 - Precision	Help		Practical Exercise Considerations          Demonstration Considerations          Facilitator Induced Errors Example		
Definition					
To carry out an actio	on or pattern of behav	ior.			
Group Size					
1:16 or less			Task Number: 071-120-0200		
1:17 or greate	55		Task Title: Perform Jumpmaster Duties during	an Airborne Operation	
Experience			Sub Task: Conduct Jumpmaster Personnel Insp	pection (JMPI)	
New to task			T-11 Hollywood Jumpmaster Personnel Inspect	ion (JMPI) Sequence	
0	lge, no fundamentals.		<ol> <li>The Facilitator demonstrates the correct method of inspecting a parachutist.</li> <li>The Facilitator induces major and minor errors in the parachute assembly.</li> <li>The remaining hours are spent conducting practical exercises using two-man buddy teams (jumpmaster and jumper), where the Soldier jumpmaster (JM) is required to conduct a personnel inspection and find and report major and minor rigging deficiencies that have been placed in the parachute assembly by the Facilitator.</li> <li>Soldiers are changed over often to ensure all receive the same amount of inspection time.</li> </ol>		
Familiar with					
	<sup>h task</sup> nowledge, executes th s at the san				
			FACILITATOR-INDUCED ERRORS	FACILITATOR FEEDBACK	
Adjust	Extend	Post		8	
Align	Extract	Prepare		M.	
Assemble	Forward	Prevent	Error: Inverted	Use correct	
Camouflage	Fuel	Process	chin strap	nomenclature	
	Guard	Produce	Error: Canopy release	Why is the Canopy	
Clear	Implement	Protect Provide	not properly seated	release not properly	
Close	Include	PART CONTRACTOR	1	seated?	
Close Collect	Input				
Close Collect Complete	Inspect	Publish	Error: Reserve	What is the correction	
Close Collect Complete Comply	Inspect Install	Publish Record	Error: Reserve	What is the correction needed?	
Close Collect Complete Comply Configure	Inspect Install Inventory	Publish Record Recover			
Close Collect Complete Comply Configure Connect	Inspect Install Inventory Lay	Publish Record Recover Reduce	upside-down	needed?	
Close Collect Complete Comply Configure Connect Construct	Inspect Install Inventory Lay Lead	Publish Record Recover Reduce Refine	upside-down	How should the leg strap be routed through aviators	
Close Collect Complete Comply Configure Connect Construct Control	Inspect Install Inventory Lay Lead Maintain	Publish Record Recover Reduce Refine Release	upside-down Error: Leg strap not routed through	How should the leg strap be routed	
Close Collect Complete Comply Configure Connect Construct	Inspect Install Inventory Lay Lead	Publish Record Recover Reduce Refine	upside-down Error: Leg strap not routed through	How should the leg strap be routed through aviators	

Demonstrate

Neutralize

Retrieve

~

## <

- 0 - ×

#### 1:16 or less

O 1:17 or greater

#### Experience

Eile Edit View Favorites Tools Help

New to task No task knowledge, no fundamentals.

- Familiar with task
   Preliminary task knowledge, understands fundamentals.
- Proficient with task
   Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical

# Level

AlignExtractAssembleForwardCamouflageFuelClearGuardCloseImplementCollectInputCompleteInspectComplyInstallConfigureInventoryConstructLayControlMaintainCorrectMoveCounterMonitorCrossMoveDecontaminateNavigateDeliverNegotiateDeployNewDirectNotifyDispatchObtainDisplaceOccupy	Post
Camouflage Fuel Clear Guard Close Implement Collect Input Complete Inspect Comply Install Configure Inventory Connect Lay Construct Lead Control Maintain Correct Measure Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deploy New Direct Notify Dispatch Obtain Displace Occupy	Prepare
ClearGuardCloseImplementCollectInputCompleteInspectComplyInstallConfigureInventoryConnectLayConstructLeadControlMaintainCorrectMonitorConstructNeasureCounterNonitorCrossMoveDecontaminateNavigateDeliverNegotiateDeployNewDirectNotifyDispatchObtainDisplaceOccupy	Prevent
Close Implement Collect Input Complete Inspect Comply Install Configure Inventory Connect Lay Construct Lead Control Maintain Correct Measure Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deliver Negotiate Deploy New Direct Notify Dispatch Obtain Displace Occupy	Process
CollectInputCompleteInspectComplyInstallConfigureInventoryConnectLayConstructLeadControlMaintainCorrectMeasureCounterMonitorCrossMoveDecontaminateNavigateDeliverNegotiateDeployNewDirectNotifyDispatchObtainDisplaceOccupy	Produce
Complete Inspect Comply Install Configure Inventory Connect Lay Construct Lead Control Maintain Correct Measure Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Deliver Negotiate Deliver Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Protect
ComplyInstallConfigureInventoryConnectLayConstructLeadControlMaintainCorrectMeasureCounterMonitorCrossMoveDecontaminateNavigateDeliverNegotiateDeployNewDirectNotifyDispatchObtainDisplaceOccupy	Provide
ConfigureInventoryConnectLayConstructLeadControlMaintainCorrectMeasureCounterMonitorCrossMoveDecontaminateNavigateDeliverNegotiateDenonstrateNeutralizeDeloyNewDirectNotifyDispatchObtainDisplaceOccupy	Publish
ConnectLayConstructLeadControlMaintainCorrectMeasureCounterMonitorCrossMoveDecontaminateNavigateDeliverNegotiateDenonstrateNeutralizeDeloyNewDirectNotifyDispatchObtainDisplaceOccupy	Record
Construct Lead Control Maintain Correct Measure Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Recover
Control Maintain Correct Measure Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Reduce
Correct Measure Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Refine
Counter Monitor Cross Move Decontaminate Navigate Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Release
Cross Move Decontaminate Navigate Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Relocate
Decontaminate Navigate Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Remove
Deliver Negotiate Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Repair
Demonstrate Neutralize Deploy New Direct Notify Dispatch Obtain Displace Occupy	Replace
Deploy New Direct Notify Dispatch Obtain Displace Occupy	Restore
Direct Notify Dispatch Obtain Displace Occupy	Retrieve
Dispatch Obtain Displace Occupy	Rig
Displace Occupy	Secure
	Set up
	Store
Emplace Open	Tow
Employ Operate	Track

Backwards Fading Example				
lackwards fading (BF) is the system upport) across learning trials.	natic rem	oval o	f scaffolding (i.e., instructional	
Jsed to:				
<ul> <li>Teach tasks to individuals wh</li> <li>Teach tasks that are cumulat</li> <li>Move individuals from worked</li> </ul>	ive in nat	ure (re	elationship between steps)	
(ey points for success:				
<ul> <li>Ongoing evaluation of the Sol</li> <li>The Facilitator determines wh performance.</li> </ul>			nce is required. nstructional support based on Soldier	
echniques include:				
alone. TASK: Conduct Jumpmast Personnel Inspection JJM		_	BACKWARDS FADING	
STEPS	TRIAI	i i i	First the facilitator demonstrates the task from beginning to end while the Soldiers watch.	
Step 1 Advanced Combat Heimet (Front)	8		Trial 1 - Begins as a guided demonstration. In other words, each Soldier watches and	
Step 2 Canopy Release Assembly	0		mimics the task steps performed by the facilitator. There are no 'student only' steps in this trial.	
Step 3 Main Lift Web	AT.		Trial 2 - The facilitator and the Soldiers perform the first ten task steps and the	
Step 4 Chest Strap	Ξ		Soldiers perform the last three task steps alone.	
Step 4 Chest Strap Step 5 Waist Band		Trial 3 The facilitator and the Soldiers perform the first seven task steps and the		
Step 6 T-11 Reserve	FΑ		Soldiers perform the last six task steps alone.	
Step 7 Leg Straps			Trial 4 - The facilitator and the Soldiers perform the first five task steps and the Soldiers perform the last eight task steps	
Step 8 Universal Static Line Step 9			alone. Trial 5 - The facilitator and the Soldiers perform the first three task steps and the	

8

alone

Sten 10

			<ul> <li>The Facilitator determines when performance.</li> </ul>	to remove	e instructional support based on Soldier		
Other Verb	s at the san	ne Physical	Techniques include:				
Level							
20101			Together, the Facilitator and Soli     In early learning trials, both the S		m a series of trials (attempts). the facilitator are involved in performing		
Adjust	Extend	Post	task steps.		the recenter of a monte of performing		
Align	Extract	Prepare	<ul> <li>In later learning trials, more and</li> </ul>	more of th	e task steps are performed by the Soldier		
Assemble	Forward	Prevent	alone.				
Camouflage	Fuel	Process					
Clear	Guard	Produce	TASK: Conduct Jumpmaster Personnel Inspection (JMPI)		BACKWARDS FADING		
Close	Implement	Protect		TRIALS			
Collect	Input	Provide	STEPS		First the facilitator demonstrates the task from beginning to end while the Soldiers		
Complete	Inspect	Publish	Demo	2 2 4 5			
Comply	Install	Record	Step 1	and the second se	Trial 1 - Begins as a guided demonstration.		
Configure	Inventory	Recover	Advanced Combat Helmet (Front)	x	In other words, each Soldier watches and		
Connect	Lay	Reduce	Step 2	5	mimics the task steps performed by the facilitator. There are no 'student only' steps.		
Construct	Lead	Refine	Contropy recessor reaction of	_	in this trial.		
Control	Maintain	Release		A	Trial 2 - The facilitator and the Soldiers		
Correct	Measure	Relocate			perform the first ten task steps and the		
Counter	Monitor	Remove	Step 4 Chest Strap		Soldiers perform the last three task steps alone.		
Cross	Move	Repair	Step 5	_	Trial 3 - The facilitator and the Soldiers		
Decontaminate	Navigate	Replace	Waist Band	5	perform the first seven task steps and the Soldiers perform the last six task steps alone.		
Deliver	Negotiate	Restore		A			
Demonstrate	Neutralize	Retrieve		I	and the second se		
Deploy	New	Rig	Step 7		Trial 4 - The facilitator and the Soldiers perform the first five task steps and the		
Direct	Notify	Secure	Leg Straps		Soldiers perform the last eight task steps		
Dispatch	Obtain	Set up	Step 8		alone.		
Displace	Occupy	Store	Universal Static Line		Trial 5 - The facilitator and the Soldiers		
Emplace	Open	Tow	Step 9 Advanced Combat Helmet (Back)	S	perform the first three task steps and the Soldiers perform the last tent task steps		
Employ	Operate	Track	Step 10	8	alone		
Enforce	Order	Train	Riser Assemblies	-	Trial 6 - The Soldiers complete the task by		
Erect	Orient	Transport	Step 11	10	themselves		
Escort	Patrol	Treat	Packtray				
Evacuate	Perform	Troubleshoot	Step 12	0			
Evade	Place	Turn	Diagonal/Horizontal Back Straps	S			
Evaluate	Plot	Zero	Step 13				
Exchange	Position		Saddle				

## 🛞 @ http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Perform&type=1&value=3&g 👻 🖸 🧭 Instructional Methods Tool 🛛 🗴

### <u>File Edit View Favorites Iools Help</u> P3 - Precision

#### Definition

To carry out an action or pattern of behavior.

#### Group Size

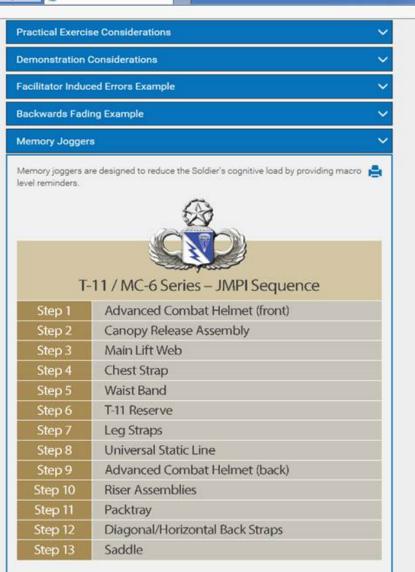
- 1:16 or less
- 1:17 or greater

#### Experience

- New to task No task knowledge, no fundamentals.
- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical Level

Adjust	Extend	Post
Align	Extract	Prepare
Assemble	Forward	Prevent
Camouflage	Fuel	Process
Clear	Guard	Produce
Close	Implement	Protect
Collect	Input	Provide
Complete	Inspect	Publish
Comply	Install	Record
Configure	Inventory	Recover
Connect	Lay	Reduce
Construct	Lead	Refine
Control	Maintain	Release
Correct	Measure	Relocate
Counter	Monitor	Remove
Cross	Move	Repair
Decontaminate	Navigate	Replace
Deliver	Negotiate	Restore
Demonstrate	Neutralize	Retrieve



# Appendix H

Military Task Examples P2+P3 – Manipulation and Precision / Large Group / Familiar with Task

nstructional Methods Tool				
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Adr			
Task Variables Clear	Recommended Methods and Sequence of Instruction			
Action Verb	Recommended methods and sequence of instruction			
Perform	Direct Instruction and Experiential Learning			
	Break large group into smaller groups			
Performance Level P3 - Precision	Choose the method of instruction based on the "Time of Instruction" for the ELO.			
	Time of Method of Instruction			
Definition To carry out an action or pattern of behavior.	2 hours Demonstration with PE and Facilitator feedback			
	4-8 hours Demonstration then multiple practice sessions and rehearsals using			
Group Size	training aids or actual equipment, IMI, or simulations. Facilitator feedback is essential.			
O 1:16 or less				
1:17 or greater				
Experience	Key Points for Success			
New to task No task knowledge, no fundamentals.	Facilitator Considerations			
Familiar with task	Practical Exercise Considerations			
Preliminary task knowledge, understands fundamentals.	Demonstration Considerations			
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul>				
Denninve task knownedge, executes the fundamentals.	Facilitator Induced Errors Example			
Other Verbs at the same Physical	Backwards Fading Example			
Level	Memory Joggers			

~

Align

Clear

Close

Assemble

Camouflage

Extract

Forward

Fuel

Guard

Implement

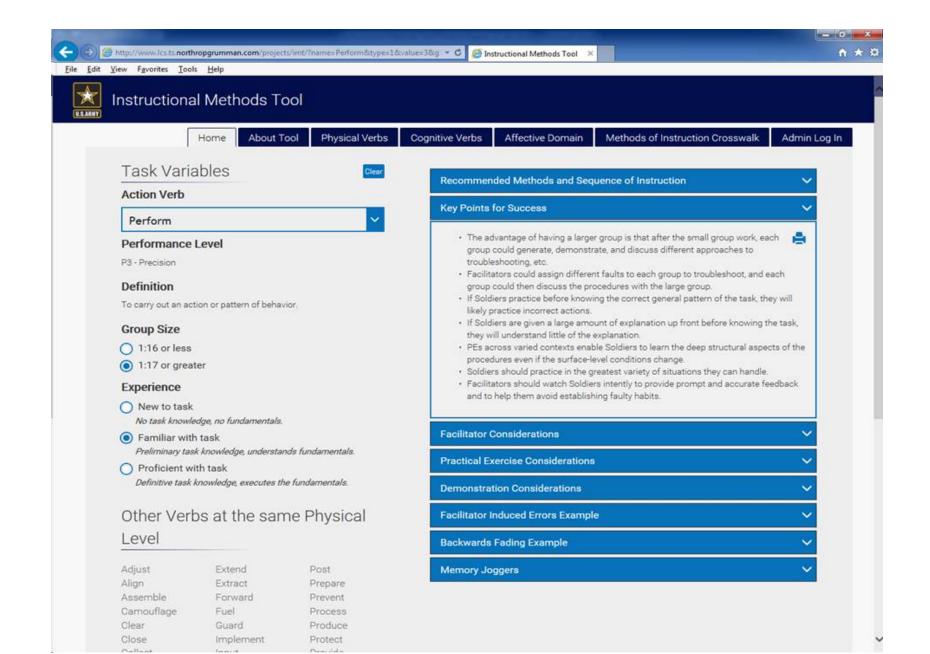
Prepare

Prevent

Process

Produce

Protect



	I Methods To				
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	bles	Clear	Recommended Methods and Sequence of Instruction		
Action Verb			Key Points for Success		
Perform		<b>~</b>			
Performance L	evel		Facilitator Considerations		
P3 - Precision			Facilitators should:		
Definition			Demonstrate the task to the large group.		
To carry out an acti	on or pattern of behav	rior.	<ul> <li>Break large groups into smaller groups for the PEs.</li> <li>Provide the Soldiers with multiple PEs.</li> </ul>		
Group Size			<ul> <li>Induce errors/faults within the PEs.</li> <li>Assign different faults to each group to troubleshoot, each group could then discuss</li> </ul>		
○ 1:16 or less			the procedures with the large group.		
1:17 or greate	er		<ul> <li>Ask Soldiers to explain their thought processes while troubleshooting the errors/faults.</li> </ul>		
Experience			<ul> <li>Provide feedback letting Soldiers know where they are making errors.</li> <li>Ask the Soldiers why they think they are making these errors in a new context.</li> </ul>		
New to task			Provide additional procedural information as required in order for the Soldiers to		
	dge, no fundamentals.		successfully complete the exercises.  • Reduce scaffolds (backwards fading) until Soldiers are operating, creating, and		
Familiar with Preliminary task	task <i>knowledge, understar</i>	nds fundamentals.	navigating on their own without errors. • Provide multiple varied examples and determine if Soldiers can perform these tasks		
O Proficient wit			in novel varied contexts.		
Definitive task k	nowledge, executes th	e fundamentals.	<ul> <li>Provide resources to reduce cognitive load such as memory joggers, mathematical formulas, specs, etc.</li> </ul>		
Other Verb	s at the san	ne Physical			
Level			Practical Exercise Considerations		
a alfona	C. A. M.	0	Demonstration Considerations		
Adjust Align	Extend Extract	Post Prepare	Facilitator Induced Errors Example		
Assemble Camouflage	Forward	Prevent	Backwards Fading Example		
NAME AND ADDRESS OF AD	Fuel	Process			
Clear	Guard	Produce			

	al Methods To				
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	ables	Clear	Recommended Methods and Sequence of Instruction		
Action Verb			Key Points for Success		
Perform		~	Facilitator Considerations		
Performance P3 - Precision	Level		Practical Exercise Considerations		
Definition To carry out an act	tion or pattern of behav	vior.	<ul> <li>Present Soldiers with faults in the procedures/steps and have the Soldiers troubleshoot these faults in order to successfully address the problems.</li> <li>Ask Soldiers to explain why they think they are performing certain errors.</li> </ul>		
Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> Experience			<ul> <li>Ask solaters to explain why they think they are performing certain errors.</li> <li>Provide additional practice opportunities while explaining their steps and errors and demonstrating their ability to troubleshoot.</li> <li>Assess whether Soldiers can complete the entire task on their own with minimal errors.</li> <li>Follow the completion of each PE with discussions with the large group to answer Soldier questions, obtain different perspectives across the small groups, and</li> </ul>		
New to task			soldier questions, obtain different perspectives across the small groups, and summarize the tasks.		
No task knowle	edge, no fundamentals.		When possible:		
Familiar with Preliminary tas	h task <i>ik knowledge, understa</i> i	nds fundamentals.	<ul> <li>Use simulators, desktop trainers, etc. to provide Soldiers with varied performance examples and to test their performance of the procedural tasks.</li> <li>Record the learner's performance using devices (such as teap recorders for several)</li> </ul>		
O Proficient w Definitive task	ith task <i>knowledge, executes tl</i>	he fundamentals.	<ul> <li>Record the learner's performance using devices (such as tape recorders for speech teachers and video cameras for coaches, etc).</li> <li>Strike a balance between explanation, practice, and further explanation.</li> </ul>		
Other Verl	bs at the sar	ne Physical	<ul> <li>Provide "just-in-time" critical information at key points in performing the task (i.e., not all before performing the task).</li> <li>Judge progress in terms of technique vice output.</li> </ul>		
Level			<ul> <li>Allow individuals to choose if and when they will receive feedback, which may lead to more active learner involvement, and increased efforts during practice.</li> </ul>		
Adjust	Extend	Post			
Align Assemble	Extract Forward	Prepare Prevent	Demonstration Considerations		
Camouflage	Fuel	Process	Facilitator Induced Errors Example		
Clear	Guard	Produce			

ttp://www.lcs.ts.northr w Fgvorites <u>T</u> ools		ts/imt/Tname=Perform&type=1&v	alue=38kg 👻 🖉 Instructional Methods Tool 🛛 🛛		
the second s	Task Variables 🛛 🕬		Recommended Methods and Sequence of Instruction		
Action Verb			Key Points for Success     V       Facilitator Considerations     V		
Perform		~			
Performance I	Level				
P3 - Precision			Practical Exercise Considerations		
Definition			Demonstration Considerations		
To carry out an act	ion or pattern of behav	vior.			
Group Size			The demonstration method of instruction helps people who learn well by modeling others. It provides an opportunity for targeted questions while drawing attention to specific details.		
1:16 or less			Used to:		
1:17 or great	er				
Experience			Train manipulative and operative skills     Develop understandings		
New to task	dge, no fundamentals.		<ul> <li>Teach new practices</li> <li>Gain acceptance of new and improved ways of doing things</li> </ul>		
Familiar with	task		Key points for success:		
Preliminary task	k knowledge, understar	nds fundamentals.	<ul> <li>The Facilitator must rehearse prior to presenting the demonstration.</li> </ul>		
Proficient with Definitive task k	th task nowledge, executes th	e fundamentals.	<ul> <li>All necessary training resources must be present and functional.</li> <li>The demonstration must be rehearsed with Als (the demonstrator and Facilitator must stay in sync or Soldiers will have a tendency to become lost or lose interest).</li> </ul>		
Other Verb	os at the san	ne Physical	<ul> <li>The Facilitator must ensure that Soliders have mastered the prior knowledge needed for the demonstration.</li> </ul>		
Level			<ul> <li>Soldiers must be able to clearly observe the demonstration and hear what the Facilitator is saying.</li> </ul>		
Lover			<ul> <li>The result of skipped steps or steps performed incorrectly must be explained.</li> </ul>		
Adjust	Extend	Post	<ul> <li>Soldiers must be shown the responses they control and the cues to which they should react.</li> </ul>		
Align	Extract	Prepare			
Assemble	Forward	Prevent	Techniques include:		
Carnouflage	Fuel	Process	<ul> <li>Soldiers watch but do not participate.</li> </ul>		
Clear	Guard	Produce	<ul> <li>Soldiers observe the demonstration and then execute each step after being</li> </ul>		
Close	Implement	Protect	demonstrated by the Facilitator.		
Collect	Input	Provide	<ul> <li>Soldiers perform steps during the demonstration. In this case, the Facilitator should:</li> <li>Ensure that all Soldiers have properly completed the step before starting the</li> </ul>		
Complete	Inspect	Publish	next step.		
Comply	Install	Record	<ul> <li>Provide sufficient Als to roam the classroom, assist Soldiers having difficulty,</li> </ul>		
Configure	Inventory	Recover	and ensure all Soldiers are performing each step properly		
Connect	Lay	Reduce			
Construct	Lead	Refine			

View Favorites		ojects/imt/Tname=Perform&type=	18cvalue=38cg 👻 C S Instructional Methods Tool X			
Perform			Key Points for Success	Key Points for Success		
		ř	Facilitator Considerations			
Performance Level P3 - Precision			Practical Exercise Considerations			
Definition						
To carry out an action or p	pattern of behavior.		Demonstration Considerations			
Group Size			Facilitator Induced Errors Example			
1:16 or less			Task Number: 071-120-0200	A		
<ul> <li>1:10 or greater</li> </ul>			Task Title: Perform Jumpmaster Duties during an Airborne Operation			
The second s			Sub Task: Conduct Jumpmaster Personnel Inspection (JMPI)			
Experience			T-11 Hollywood Jumpmaster Personnel Inspection (JMPI) Sequence			
New to task			The Facilitator demonstrates the correct method of inspecting a part	urgunitu atlan		
No task knowledge, no	nundamentala.					
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>		ala	<ol> <li>The Facilitator induces major and minor errors in the parachute ass</li> </ol>			
O Proficient with task			Soldier jumpmaster (JM) is required to conduct a personnel inspection	<ol> <li>The remaining hours are spent conducting practical exercises using two-man buddy teams (jumpmaster and jumper), where the Solider jumpmaster (JM) is required to conduct a personnel inspection and find and report major and minor rigging deficiencies</li> </ol>		
Definitive teak knowled	dge, executes the fundamental	k	placed in the parachute assembly by the Facilitator.			
Other Verbs at the same Physical Level		ical Level	4. Soldiers are changed over often to ensure all receive the same armo			
			Jumpmaster Personne	Jumpmaster Personnel Inspection (JMPI)		
Adjust	Extend	Post	FACILITATOR-INDUCED ERRORS	FACILITATOR FEEDBACK		
Align Assemble	Extract Forward	Prepare Prevent	TACLINION INDUCED ENIORS	NGLIMON LEDONCK		
Carnouflage	Fuel	Process				
Clear	Guard	Produce		6 <u>9</u> 9		
Close	Implement	Protect	Error: Inverted	Use correct		
Collect	Input.	Provide	chin strap	nomenclature		
Complete	inspect	Publish	chin strap	Allow		
Comply	Install	Record	Error: Canopy release	Why is the Canopy		
Configure	Inventory	Recover	not properly seated	release not properly		
Connect	Lay	Reduce	not property seared			
Construct	Lead	Refine		seated ?		
Control Correct	Maintain Measure	Release Relocate	Error: Reserve	What is the correction		
Counter	Monitor	Remove				
Cross	Move	Repair	upside-down	needed?		
Decontaminate	Navigate	Replace	Error: Leg strap not	How should the		
Deliver	Negotiate	Restore				
Demonstrate	Neutralize	Retrieve	routed through	leg strap be routed		
Deploy	New	Rig	aviators kit bag	through aviators		
Direct	Notify	Secure		kit bag?		
Dispatch	Obtain	Set up		Sec. 1		
Displace	Occupy	Store	0			
Emplace	Open	Tow				
Employ	Operate	Track		2		
Enforce	Order	Train	C,			
Erect	Orient	Transport				
scort.	Patrol	Treat				

## <

- 0 - ×

#### 1:16 or less

O 1:17 or greater

#### Experience

Eile Edit View Favorites Tools Help

New to task No task knowledge, no fundamentals.

- Familiar with task
   Preliminary task knowledge, understands fundamentals.
- Proficient with task
   Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical

# Level

Adjust	Extend	Post
Align	Extract	Prepare
Assemble	Forward	Prevent
Camouflage	Fuel	Process
Clear	Guard	Produce
Close	Implement	Protect
Collect	Input	Provide
Complete	Inspect	Publish
Comply	Install	Record
Configure	Inventory	Recover
Connect	Lay	Reduce
Construct	Lead	Refine
Control	Maintain	Release
Correct	Measure	Relocate
Counter	Monitor	Remove
Cross	Move	Repair
Decontaminate	Navigate	Replace
Deliver	Negotiate	Restore
Demonstrate	Neutralize	Retrieve
Deploy	New	Rig
Direct	Notify	Secure
Dispatch	Obtain	Set up
Displace	Occupy	Store
Emplace	Open	Tow

Backwards Fading Example		N 100
Backwards fading (BF) is the syste support) across learning trials.	matic removal c	of scaffolding (i.e., instructional
Jsed to:		
<ul> <li>Teach tasks to individuals w</li> <li>Teach tasks that are cumula</li> <li>Move individuals from works</li> </ul>	ative in nature (n	elationship between steps)
(ey points for success:		
<ul> <li>Ongoing evaluation of the So</li> <li>The Facilitator determines w performance.</li> </ul>		ance is required. instructional support based on Soldier
echniques include:		
alone. TASK: Conduct Jumpma	ster	task steps are performed by the Soldier
Personnel Inspection (J) STEP5	(FI) TRIALS	First the facilitator demonstrates the task
Step 1 Advanced Combat Helmet (Front) Step 2	R	Trial 1 - Begins as a guided demonstration. In other words, each Soldier watches and minutes the task steps performed by the
Canopy Release Assembly	- L	facilitator. There are no 'student only' steps in this trial.
Step 3 Main Lift Web	A	Trial 2 - The facilitator and the Soldiers perform the first ten task steps and the
Step 4 Chest Strap	CILIT	Soldiers perform the last three task steps alone.
Step 5 Waist Band	E	Trial 3 The facilitator and the Soldiers perform the first seven task steps and the
Step 6 T-11 Reserve	FA	Soldiers perform the last six task steps alone.
Step 7 Leg Straps		Trial 4 - The facilitator and the Soldiers perform the first five task steps and the Soldiers perform the last eight task steps
Step 8 Universal Static Line Step 9	10	alone. Trial 5 - The facilitator and the Soldiers perform the first three task steps and the

8

alone

Sten 10

			<ul> <li>The Facilitator determines when to performance.</li> </ul>	remove	instructional support based on Soldier	
Other Verb	os at the san	ne Physical	Techniques include:			
Level			and the second se			
			<ul> <li>Together, the Facilitator and Soldier perform a series of trials (attempts).</li> <li>In early learning trials, both the Soldier and the facilitator are involved in performing</li> </ul>			
Adjust	Extend	Post	task steps.			
Align	Extract	Prepare	<ul> <li>In later learning trials, more and mo</li> </ul>	re of the	task steps are performed by the Soldier	
Assemble	Forward	Prevent	alone.			
Camouflage	Fuel	Process				
Clear	Guard	Produce	TASK: Conduct Jumpmaster Personnel Inspection (JMPI)		BACKWARDS FADING	
Close	Implement	Protect	T	RIALS		
Collect	Input	Provide	STEPS	1111	First the facilitator demonstrates the task from beginning to end while the Soldiers	
Complete	Inspect	Publish	- Centre	1 4 5 1		
Comply	Install	Record	Step 1	and the second	Trial 1 - Begins as a guided demonstration.	
Configure	Inventory	Recover	Advanced Combat Helmet (Front)		In other words, each Soldier watches and	
Connect	Lay	Reduce	Step 2		mimics the task steps performed by the facilitator. There are no 'student only' steps	
Construct	Lead	Refine			in this trial.	
Control	Maintain	Release	Step 3 Main Lift Web		Trial 2 - The facilitator and the Soldiers perform the first ten task steps and the	
Correct	Measure	Relocate	Individue New Jack			
Counter	Monitor	Remove	Step 4 Chest Strap		Soldiers perform the last three task steps alone.	
Cross	Move	Repair	Chest Strap Step 5		Trial 3 - The facilitator and the Soldiers	
Decontaminate	Navigate	Replace	Waist Band	perform the first seven task steps and the		
Deliver	Negotiate	Restore	Step 6			
Demonstrate	Neutralize	Retrieve	T-11 Reserve		2017 Second record and a construction	
Deploy	New	Rig	Step 7		Trial 4 - The facilitator and the Soldiers perform the first five task steps and the	
Direct	Notify	Secure	Leg Straps		Soldiers perform the last eight task steps	
Dispatch	Obtain	Set up	Step 8		alone.	
Displace	Occupy	Store	Universal Static Line		Trial 5 - The facilitator and the Soldiers	
Emplace	Open	Tow	Step 9 Advanced Combat Helmet (Back)	S	perform the first three task steps and the Soldiers perform the last tent task steps	
Employ	Operate	Track	Step 10	œ	alone	
Enforce	Order	Train	Riser Assemblies	-	Trial 6 - The Soldiers complete the task by	
Erect	Orient	Transport	Step 11	0	themselves	
Escort	Patrol	Treat	Packtray			
Evacuate	Perform	Troubleshoot	Step 12	0		
Evade	Place	Turn	Diagonal/Horizontal Back Straps	S		
Evaluate	Plot	Zero	Step 13	2.4		
Exchange	Position		Saddle			

#### 😓 😔 @ http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Perform&type=1&value=3&g 🔹 🖸 Instructional Methods Tool

### File Edit View Favorites Tools Help P3 - Precision

Definition

To carry out an action or pattern of behavior.

#### Group Size

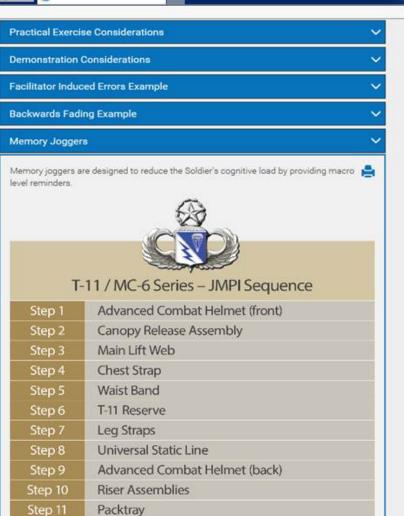
- 1:16 or less
- 1:17 or greater

#### Experience

- New to task No task knowledge, no fundamentals.
- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical Level

Adjust	Extend	Post
Align	Extract	Prepare
Assemble	Forward	Prevent
Camouflage	Fuel	Process
Clear	Guard	Produce
Close	Implement	Protect
Collect	Input	Provide
Complete	Inspect	Publish
Comply	Install	Record
Configure	Inventory	Recover
Connect	Lay	Reduce
Construct	Lead	Refine
Control	Maintain	Release
Correct	Measure	Relocate
Counter	Monitor	Remove
Cross	Move	Repair
Decontaminate	Navigate	Replace
Deliver	Negotiate	Restore
Demonstrate	Neutralize	Retrieve



Diagonal/Horizontal Back Straps

Saddle

Step 11

Step 13

# Appendix I

Military Task Examples P2+3 – Manipulation and Precision / Small Group / Proficient with Task

View Favorites Iools Help Instructional Methods Tool			
Home About Tool Physical Verb	s Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L		
Task Variables	Recommended Methods and Sequence of Instruction		
Action Verb			
Perform	Choose the method of instruction based on the "Time of Instruction" for the ELO.		
	Time of Method of Instruction		
Performance Level	Instruction 4-8 hours Perform PEs that reflect tasks the Soldiers would perform on the job. Peer-		
P3 - Precision	to-Peer coaching if in a mixed learner group. Provide multiple practice		
Definition	sessions and rehearsals utilizing IMI or simulations, if available. Soldier proficiency levels should be assessed.		
To carry out an action or pattern of behavior.	Multiple Days Cycle of practice opportunities, probing questions, and feedback. IMI and		
Group Size	simulations could be used if available to conduct PEs. Test proficiency and then have the Soldiers assist in preparing lessons, teaching, and researching		
1:16 or less	for longer assignments.		
O 1:17 or greater			
Experience	Key Points for Success		
O New to task	A second s		
No task knowledge, no fundamentals.	Facilitator Considerations 🗸 🗸		
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Practical Exercise Considerations		
Proficient with task	Peer-to-Peer Learning Considerations		
Definitive task knowledge, executes the fundamentals.	Troubleshooting Example 🗸 🗸		
Other Verbs at the same Physical			
Level	Just-in-Time Information		
a construction of the second sec	Completion Task Example		

Process

Produce

Protect

Carnouflage

Clear

Close

Fuel

Guard

Implement

Instructional Methods Tool		
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L	
Task Variables	Recommended Methods and Sequence of Instruction	
Action Verb		
Perform	Key Points for Success	
Performance Level P3 - Precision Definition To carry out an action or pattern of behavior.	<ul> <li>The skill of adapting to different situational requirements is developed through variability in practice conditions.</li> <li>Soldiers who have achieved a high level of proficiency can perform as peer coaches to the less experienced Soldiers as these Soldiers are troubleshooting, explaining troubleshooting strategies, testing skills in novel contexts, etc.</li> <li>Facilitator feedback is essential.</li> </ul>	
Group Size	Facilitator Considerations 🗸 🗸	
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>	Practical Exercise Considerations	
Experience	Peer-to-Peer Learning Considerations	
New to task No task knowledge, no fundamentals.	Troubleshooting Example	
Familiar with task Preliminary task knowledge, understands fundamentals.	Just-in-Time Information	
remaining testimetricage, enderetainee terratementer	Completion Task Example	

# Level

Adjust	Extend	Post
Align	Extract	Prepare
Assemble	Forward	Prevent
Camouflage	Fuel	Process
Clear	Guard	Produce
Close	Implement	Protect
Collect	Innut	Denidate

~

(iew F <u>a</u> vorites Iools <u>H</u> elp		
nstructional Methods Tool		
Home About Tool Physical Verb	s Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Variables	Recommended Methods and Sequence of Instruction	
Action Verb		
Perform	Key Points for Success V	
Performance Level	Facilitator Considerations	
P3 - Precision	Facilitators should:	
Definition	Create more complex exercises and require Soldiers to design their own procedures,	
To carry out an action or pattern of behavior.	develop troubleshooting techniques, find solutions to complex procedural problems, and discuss/present/debate within the group.	
Group Size	<ul> <li>Provide additional procedural information as just-in-time information, provide cues/examples, and ask and answer questions as needed for Soldiers to solve</li> </ul>	
1:16 or less	complex procedural problems.	
O 1:17 or greater	<ul> <li>Ask rapid questions; induce time constraints, etc. to simulate a real-world dynamic and challenging environment.</li> </ul>	
Experience	<ul> <li>Provide completion tasks with feedback if Soldiers are performing the tasks with errors until they demonstrate proficiency.</li> </ul>	
O New to task	en er er er en en en er	
No task knowledge, no fundamentals.	Practical Exercise Considerations	
<ul> <li>Familiar with task</li> <li>Preliminary task knowledge, understands fundamentals.</li> </ul>		
Proficient with task	Peer-to-Peer Learning Considerations	
Definitive task knowledge, executes the fundamentals.	Troubleshooting Example	
Other Verbs at the same Physical	Just-in-Time Information	
Level	Completion Task Example	
10		

~

Carnouflage

Clear

Close

Fuel

Guard

Implement

Process

Produce

Protect

Instructiona					
	I Methods To	loc			
	Cine and Cine				
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo		
Task Varia	ables	Clear			
Action Verb			Recommended Methods and Sequence of Instruction		
Perform		~	Key Points for Success		
Performance	l evel		Facilitator Considerations		
P3 - Precision	Level		Practical Exercise Considerations		
Definition	Definition		Peer-to-Peer Learning Considerations		
To carry out an act	tion or pattern of beha	vior.			
Group Size			Peer-to-peer (P2P) training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals rather than through a traditional teacher-Soldier		
1:16 or less			relationship. Soldiers learn from other Soldiers who have gained valuable insights through		
O 1:17 or greater			practical experience. In this instance, the P2P method of instruction for hands-on tasks is generally used to:		
Experience			Increase Soldier time-on-task		
O New to task			There are several key points to consider for P2P learning:		
No task knowle	odge, no fundamentals.		<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> </ul>		
	k knowledge, understa	nds fundamentals.	<ul> <li>This approach takes the Facilitator out of the "expert lecturer" role.</li> <li>Facilitators must monitor peer-learning to ensure correct information is</li> </ul>		
Proficient with the second	ith task		disseminated.		
Definitive task	knowledge, executes tl	ne fundamentals.	<ul> <li>Soldier task proficiency must be assessed:</li> <li>Before – to determine the Soldier's level of understanding/proficiency and</li> </ul>		
			identify peer Facilitators.		
Other Verl	os at the sar	ne Physical	<ul> <li>During – to estimate understanding/proficiency and track progress in accomplishing the training objectives.</li> </ul>		
Level			<ul> <li>After – to assess what the Soldier learned.</li> </ul>		
Adjust	Extend	Post			
Align	Extract	Prepare	Troubleshooting Example		
Assemble Camouflage	Forward Fuel	Prevent Process	Just-in-Time Information		
Clear	Guard	Produce	Completion Task Example		
Close	Implement	Protect			

lit View Favorites Tools	Help			
Definition		Peer-to-Peer Learning Considerations	~	
To carry out an actic	n or pattern of behav	ior.	Troubleshooting Example	
Group Size			Houbleshooting Example	`
1:16 or less			Task Number: 071-120-0200	e (
1:17 or greater		Task Title: Perform Jumpmaster Duties during an Airborne Operation		
Experience			Sub Task: Conduct Jumpmaster Personnel Inspe	ection (JMPI)
O New to task			Condition 1: T-11 Hollywood Parachutist	
<u> </u>	No task knowledge, no fundamentals.		1. The Facilitator demonstrates the correct method of inspecting a parachutist.	
Familiar with task Preliminary task knowledge, understands fundamentals.		<ol> <li>The Facilitator induces major and minor errors in the parachute assembly.</li> <li>The Soldier jumpmaster (JM) is required to conduct a personnel inspection and find and report major and minor rigging deficiencies.</li> </ol>		
Proficient with	n task		Condition 2: T-11 Combat Equipped Parachutist	nyett o
Definitive task kn	owledge, executes th	e fundamentals.		astend of increasting a property dist
			<ol> <li>The Facilitator demonstrates the correct m</li> <li>The Facilitator induces major and minor er</li> </ol>	승규는 사람은 집에 가장 것을 가지 않는 것이 아파가 가지 않는 것이 가지 않는 것이 가지 않는 것이다.
Other Verb	s at the san	ne Physical	3. The Soldier jumpmaster (JM) is required to	
Level			and report major and minor rigging deficient	ncies.
			Jumpmaster Personnel	
Adjust	Extend	Post	Condition 1: T-11 Holly	wood Parachuust
Align	Extract	Prepare	FACILITATOR-INDUCED ERRORS	FACILITATOR FEEDBACK
Assemble	Forward	Prevent	6	A
Camouflage	Fuel	Process		9
Clear	Guard	Produce	Error: Inverted	Use correct
Close	Implement	Protect	chin strap	nomenclature
Collect	Input	Provide	Error: Canopy release	Why is the Canopy
Complete	Inspect	Publish	not properly seated	release not properly
Comply	Install	Record		seated ?
Configure	Inventory	Repover	Error: Reserve	What is the correction
Connect	Lay	Reduce	upside-down	needed?
Construct	Lead	Refine		
Control	Maintain	Release	Error: Leg strap not	How should the
Correct	Measure	Relocate	routed through	leg strap be routed
Counter	Monitor	Remove	aviator's kit bag	through aviator's kit bag?
Cross	Move	Repair		nic bagr
Decontaminate	Navigate	Replace	C,	
Deliver	Negotiate	Restore		

<u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools	Help			
Collect	Input	Provide	Crinisuap	nomenciacore
Complete	Inspect	Publish	Error: Canopy release	Why is the Canopy
Comply	Install	Record	not properly seated	release not properly seated ?
Configure	Inventory	Recover		
Connect	Lay	Reduce	Error: Reserve	What is the correction
Construct	Lead	Refine	upside-down	needed?
Control	Maintain	Release	Error: Leg strap not	How should the
Correct	Measure	Relocate	routed through	leg strap be routed
Counter	Monitor	Remove	aviator's kit bag	through aviator's
Cross	Move	Repair		kit bag?
Decontaminate	Navigate	Replace	C.	
Deliver	Negotiate	Restore		t
Demonstrate	Neutralize	Retrieve		3
Deploy	New	Rig		1. 19 100
Direct	Notify	Secure	Jumpmaster Personnel	
Dispatch	Obtain	Set up	Condition 2: T-11 Combat E	quipped Parachutist
Displace	Occupy	Store	FACILITATOR-INDUCED ERRORS	FACILITATOR FEEDBACK
Emplace	Open	Tow	1	1
Employ	Operate	Track	Error: Slide fastener tab –	Use correct
Enforce	Order	Train	thong not routed around	nomenciature
Erect	Orient	Transport	the lift-the-dot post	(not zipper)
Escort	Patrol	Treat	in the second second	
Evacuate	Perform	Troubleshoot	Error: Slide fastener	Why must the slide
Evade	Place	Turn	not secured	fastener be properly secured?
Evaluate	Plot	Zero	not secured	accoredi
Exchange	Position		Error: Equipment 🔍 🔀 👔	What is the correction
			harness frayed	needed?
			Error: Leg strap	How should the
			misrouted	leg strap be routed?
			Just-in-Time Information	~
			Completion Task Example	~

View Favorites Iools	Help			
1:16 or less			Just-in-Time Information	×
0 1:17 or greate	r			
Exporionee			The Facilitator provides more detailed information regard information to be learned.	rding the specific material and
Experience			and a second second second second	
O New to task			Modular Airborne Wea	pons Case
	ge, no fundamentals.		Nomenclatur	
O Familiar with		323 22	3	
	knowledge, understar	ids fundamentals.		and the second se
Proficient with				1.all
Definitive task kr	nowledge, executes th	e fundamentals.		
			a tom	-
Other Verb	s at the san	ne Physical		1000 0 1
Level			15	E.
Level			· · · ·	
Adjust	Extend	Post		
Adjust Align	Extend	Prepare	· · ·	
Assemble	Forward	Prevent	A	
Camouflage	Fuel	Process	5	
Clear	Guard	Produce		
Close	Implement	Protect		STALL D
Collect	Input	Provide	1	
Complete	Inspect	Publish		
Comply	Install	Record		The second s
Configure	Inventory	Recover	and the second se	and the second se
Connect	Lay	Reduce	Landard III	
Construct	Lead	Refine		and the second se
Control	Maintain	Release		Contraction of the Contraction o
Correct	Measure	Relocate		
Counter	Monitor	Remove		
Cross	Move	Repair	9	
Decontaminate	Navigate	Replace	1. Quick release buckles	5. Attachment strap
Deliver	Negotiate	Restore	2. Lower tie down strap	6. Carrying handle
Demonstrate	Neutralize	Retrieve	3. Quick Release Snap Shackle	7. Friction adapter
Deploy	New	Rig		
Direct	Notify	Secure	4. Pouch attachment ladder system webbing	8. Compression straps
Dispatch	Obtain	Set up		9. Adjustable nose cone
Displace	Occupy	Store		
Emplace Employ	Open Operate	Tow Track	Completion Task Example	2

<th colses="" th="" w<=""><th>Facilitator could vide the oortunity for the dier to "Test-Out" we beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alning task steps</th></th>	<th>Facilitator could vide the oortunity for the dier to "Test-Out" we beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alning task steps</th>	Facilitator could vide the oortunity for the dier to "Test-Out" we beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alning task steps
Experience         New to task         No task knowledge, no fundamentals.         Familiar with task         Preliminary task knowledge, understands fundamentals.         Proficient with task         Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical         Level         Adjust       Extract         Prepare         Assemble       Forward         Prevent         Camouflage       Fuel         Clear       Guard         Clear       Guard         Complete       Inspect         Publish       Step 9         Complete       Inspect         Complete       Inspect         Publish       Step 9         Complete       Inspect         Publish       Step 9         Complete       Inspect         Publish       Step 9         Step 9	COMPLETION TASK t the facilitator nonstrates the task n beginning to while the Soldier ch. Facilitator could vide the ortunity for the dier to "Test-Out" ne beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alining task steps	
O New to task No task knowledge, no fundamentals.         O Familiar with task Preliminary task knowledge, understands fundamentals.         ③ Proficient with task Definitive task knowledge, executes the fundamentals.         ③ Proficient with task Definitive task knowledge, executes the fundamentals.         ③ Proficient with task Definitive task knowledge, executes the fundamentals.         ④ Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Adjust       Extend       Post         Align       Extract       Prepare         Assemble       Forward       Prevent         Camouflage       Fuel       Produce         Clear       Guard       Produce         Close       Implement       Produce         Complete       Inspect       Publish         Complete       Inspect       Publish         Complete       Inspect       Publish         Complet       Lay       Reduce         Connect       Lay       Reduce         Construct       Lead       Refine	COMPLETION TASK t the facilitator nonstrates the task n beginning to while the Soldier ch. Facilitator could vide the ortunity for the dier to "Test-Out" ne beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alining task steps	
TASK: Conduct: Lumpmaster Personnel inspection (LMPI)         Other verbs at the same Physical         Other Verbs at the same Physical         Level         Adjust       Extend       Post         Align       Extract       Prepare         Assemble       Forward       Prevent         Camouflage       Fuel       Produce         Clear       Guard       Produce         Complete       Inspect       Publish	COMPLETION TASK t the facilitator nonstrates the task n beginning to while the Soldier ch. Facilitator could vide the ortunity for the dier to "Test-Out" ne beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alining task steps	
T-11 Combat Equipped Parachulits         COMPLETION TASK OPTIONS         Preliminary task knowledge, understands fundamentals.         Other Verbs at the same Physical         Level       The Combat Helmet (Front)         Step 1       Advanced Combat Helmet (Front)       The Combat Parachulits         Adjust       Extend       Post         Align       Extract       Prepare         Assemble       Forward       Prevent         Canouflage       Fuel       Produce         Clear       Guard       Protect         Collect       Input       Provide         Complete       Inspect       Publish         Complete       Inspect       Publish         Complete       Inspect       Publish         Configure       Inventory       Record         Step 9         Construct       Lead       Refine	TASK t the facilitator nonstrates the task n beginning to while the Soldier ch. Facilitator could vide the oortunity for the dier to "Test-Out" ne beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alining task steps	
○ Familiar with task Preliminary task knowledge, understands fundamentals.       COMPLETION TASK OPTIONS       First den from from end den from from end den from from from from from from from from	t the facilitator nonstrates the task n beginning to while the Soldier ch. Facilitator could vide the vortunity for the dier to "Test-Out" he beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the alning task steps	
Preliminary task knowledge, understands fundamentals.         Image: Step 3         Other Verbs at the same Physical         Level         Adjust       Extend         Adjust       Extend         Align       Extract         Produce         Clear       Guard         Collect       Implement         Protect       Step 6         Collect       Implement         Collect       Implement         Protect       Step 7         Collect       Implement         Protect       Step 7         Step 7       Molicit Reverse         Step 8       UP         Construct       Law         Reverse       Step 1         Other Verbs at the same Physical       Extend         Protoces       Propare         Adjust       Extend         Protoces       Propare         Main Lift Web       Extend         Step 5       UP         Waist Band       UP         Step 6       UP         Misso Weapons Case       UP         Step 7       MOLLE Ruckack         Step 8       HPT Lowering Line         Step 9	nonstrates the task in beginning to while the Soldier ch. Facilitator could vide the oortunity for the dier to "Test-Out" ne beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the c steps up to the or and then the dier completes the aining task steps	
Proficient with task     Definitive task knowledge, executes the fundamentals.     Other Verbs at the same Physical     Level     Adjust Extend Post     Align Extract Prepare     Assemble Forward Prevent     Camouflage Fuel Process     Clear Guard Produce     Clobe Implement Protect     Collect Input Provide     Complete Inspect Publish     Complete Inventory Recover     Connect Lay Reduce     Construct Lead Refine	n beginning to while the Soldier ch. Facilitator could vide the oortunity for the dier to "Test-Out" he beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the csteps up to the or and then the dier completes the aining task steps	
Definitive task knowledge, executes the fundamentals.       Step 1       Advanced Combat Helmet (Front)       wat         Other Verbs at the same Physical       Step 2       Canopy Release Assembly       O       proposition         Level       Adjust       Extend       Post       Step 3       Main Lift Web       Step 4       L       F       Step 4       F       F       Step 5       Step 4       F       F       Step 5       Step 5       Step 6       Step 6       Step 6       Step 6       Step 7       Waist Band       Step 7       Step 8       Step 7       Step 9       Step 6       Step 9       Step 10       Step 10       Step 10       Step 10       Step 10       Universal Static Line       Step 10	ch. Facilitator could vide the sortunity for the dier to "Test-Out" be beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the steps up to the r and then the dier completes the alning task steps	
Other Verbs at the same Physical     Step 2 Canopy Release Assembly     O L V     Protect       Adjust     Extend     Post     Step 3 Main Lift Web     V L V     Step 4 Chest Strap     V L V     V L V       Align     Extract     Prepare     Step 5     V L V     If the the Chest Strap     Step 5     V L V       Assemble     Forward     Prevent     Step 6     V V     V V     Step 6       Clear     Guard     Protoces     M1950 Weapons Case     V V     Step 8       Close     Implement     Provide     Step 8     V U     Step 8       Complete     Inspect     Publish     HPT Lowering Line     Step 9       Comply     Install     Record     Step 9     Step 9       Configure     Inventory     Recover     Leg Straps     Step 10       Construct     Lead     Refine     Step 10     Universal Static Line	vide the ortunity for the dier to "Test-Out" be beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the c steps up to the or and then the dier completes the alning task steps	
LevelStep 3 Main Lift WebIOpposite Sold at the AtignAdjustExtendPostStep 4 Chest StrapIIII UIf the the Chest StrapAlignExtractPrepare ProvardStep 5 Waist BandIIII UIf the the Sold at the Step 5AssembleForwardPreventStep 6 M1950 Weapons CaseIIII USold at the the Sold at the Step 5ClearGuardProduceStep 6 M1950 Weapons CaseIIII USold the Sold errorCloseImplementProtect ProvideStep 7 MOLLE RucksackIIII USold error alorCollectInputProvide Step 8 HPT Lowering LineStep 9 Leg StrapsStep 9 Leg StrapsIIIII UConnectLayReduce RefineStep 10 Universal Static LineStep 10 Universal Static Line	dier to "Test-Out" he beginning of lesson e Soldier perform task with errors, Facilitator and dier perform the rand then the for completes the aining task steps	
AdjustExtendPostStep 4 Chest StrapII	e Soldier perform task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the aaining task steps	
AlignExtractPrepareStep 5IIIthe the solution of t	task with errors, Facilitator and dier perform the steps up to the or and then the dier completes the aining task steps	
AssembleForwardPreventWaist BandImage: Class of the second sec	der perform the steps up to the or and then the dier completes the aining task steps	
Camouflage ClearFuelProcessStep 6 M1950 Weapons CaseVVtask errorCloseImplementProtectStep 7 MOLLE RucksackLLStep 7 MOLLE RucksackStep 9 Leg StrapsStep 9 Leg StrapsStep 9 Leg StrapsStep 9 Leg StrapsStep 10 Universal Static Line	steps up to the or and then the dier completes the aining task steps	
Clear     Guard     Produce       Close     Implement     Protect       Collect     Input     Provide       Complete     Inspect     Publish       Configure     Inventory     Recover       Connect     Lay     Refuce       Construct     Lead     Refine	dier completes the aining task steps	
Close     Implement     Protect     Step 7     L       Collect     Input     Provide     MOLLE Rucksack     alor       Complete     Inspect     Publish     HPT Lowering Line     Step 8       Comply     Install     Record     Step 9     Eg Straps       Connect     Lay     Reduce     Step 10     Universal Static Line	aining task steps	
Collect     Input     Provide       Complete     Inspect     Publish       Comply     Install     Record       Configure     Inventory     Recover       Connect     Lay     Refine       Construct     Lead     Refine	10	
Complete     Inspect     Publish     HPT Lowering Line       Comply     Install     Record     Step 9       Configure     Inventory     Reduce     Step 10       Construct     Lead     Refine     Universal Static Line		
Comply     Install     Record       Configure     Inventory     Recover       Connect     Lay     Reduce       Construct     Lead     Refine		
Configure     Inventory     Recover     Leg Straps       Connect     Lay     Reduce     Step 10       Construct     Lead     Refine		
Construct Lead Refine Universal Static Line		
Control Maintain Delease Ster 11		
TH Grand		
Correct Measure Relocate T-11 Reserve		
Counter Monitor Remove Step 12 Advanced Combat Helmet (Back)		
Cross Move Repair		
Decontaminate Navigate Replace RiserAssemblies		
Deliver Negotiate Restore		
Demonstrate Neutralize Retrieve Packtray		
Deploy New Rig Step 15		
Direct Notify Secure Diagonal/Horizontal Back Straps		
Dispatch Obtain Set up Step 16		
Displace Occupy Store Saddle		

# Appendix J

Military Task Examples P2+P3 – Manipulation and Precision / Large Group / Proficient with Task

Task Variables   Action Verb   Perform   Performance Level   P3 - Precision   Definition   To carry out an action or pattern of behavior.   Group Size   1:16 or less	ognitive Verbs       Affective Domain       Methods of Instruction Crosswalk       Admin         Recommended Methods and Sequence of Instruction         Experiential and Peer-to-Peer Learning       Image: Colspan="2">Composition of more advanced techniques and skills, or additional procedural information for more complex tasks, should be given prior to PEs on new material.         Choose the method of instruction based on the "Time of Instruction" for the ELO.       Image: Colspan="2">Image: Colspan="2">Time of Method of Instruction based on the "Time of Instruction" for the ELO.         4-8 hours       Perform PEs that reflect tasks the Soldiers would perform on the job. Peerto-peer coaching if in a mixed learner group. Provide multiple practice sessions and rehearsals utilizing IMI or simulations, if available. Soldier				
Action Verb Perform Perform Porformance Level P3 - Precision Definition To carry out an action or pattern of behavior. Group Size 1:16 or less	Experiential and Peer-to-Peer Learning     Demonstration of more advanced techniques and skills, or additional procedural information for more complex tasks, should be given prior to PEs on new material.  Choose the method of instruction based on the "Time of Instruction" for the ELO.  Time of Method of Instruction Instruction  4-8 hours Perform PEs that reflect tasks the Soldiers would perform on the job. Peer-to-peer coaching if in a mixed learner group. Provide multiple practice				
Perform Performance Level P3 - Precision Definition To carry out an action or pattern of behavior. Group Size 11:16 or less	Experiential and Peer-to-Peer Learning     Demonstration of more advanced techniques and skills, or additional procedural information for more complex tasks, should be given prior to PEs on new material.  Choose the method of instruction based on the "Time of Instruction" for the ELO.  Time of Method of Instruction Instruction  4-8 hours Perform PEs that reflect tasks the Soldiers would perform on the job. Peer-to-peer coaching if in a mixed learner group. Provide multiple practice				
Performance Level P3 - Precision Definition To carry out an action or pattern of behavior. Group Size 1:16 or less	Demonstration of more advanced techniques and skills, or additional procedural information for more complex tasks, should be given prior to PEs on new material. Choose the method of instruction based on the "Time of Instruction" for the ELO. <u>Time of Method of Instruction Instruction</u> 4-8 hours Perform PEs that reflect tasks the Soldiers would perform on the job. Peerto-peer coaching if in a mixed learner group. Provide multiple practice				
Performance Level P3 - Precision Definition To carry out an action or pattern of behavior. Group Size 1:16 or less	information for more complex tasks, should be given prior to PEs on new material.         Choose the method of instruction based on the "Time of Instruction" for the ELO.         Time of Instruction         4-8 hours       Perform PEs that reflect tasks the Soldiers would perform on the job. Peer-to-peer coaching if in a mixed learner group. Provide multiple practice				
P3 - Precision Definition To carry out an action or pattern of behavior. Group Size 1:16 or less	Time of Instruction         Method of Instruction           4-8 hours         Perform PEs that reflect tasks the Soldiers would perform on the job. Peer- to-peer coaching if in a mixed learner group. Provide multiple practice				
To carry out an action or pattern of behavior. Group Size 0 1:16 or less	Instruction           4-8 hours         Perform PEs that reflect tasks the Soldiers would perform on the job. Peer- to-peer coaching if in a mixed learner group. Provide multiple practice				
To carry out an action or pattern of behavior. Group Size 0 1:16 or less	4-8 hours Perform PEs that reflect tasks the Soldiers would perform on the job. Peer- to-peer coaching if in a mixed learner group. Provide multiple practice				
1:16 or less	to-peer coaching if in a mixed learner group. Provide multiple practice				
1:16 or less					
	proficiency levels should be assessed.				
1:17 or greater	Multiple Days Cycle of practice opportunities, probing questions, and feedback. IMI and simulations could be used if available to conduct PEs. Test proficiency and				
Experience	then have the Soldiers assist in preparing lessons, teaching, and researching for longer assignments.				
New to task No task knowledge, no fundamentals.	ret teriget wergin ferte.				
Familiar with task Preliminary task knowledge, understands fundamentals.	Key Points for Success				
<ul> <li>Proficient with task</li> </ul>	Facilitator Considerations				
Definitive task knowledge, executes the fundamentals.	Practical Exercise Considerations				
Other Verbs at the same Physical	Peer-to-Peer Learning Considerations				
Level	Troubleshooting Example				
Adjust Extend Post	Just-in-Time Information				
Align Extract Prepare Assemble Forward Prevent	Completion Task Example				

(iew F <u>a</u> vorites <u>T</u> ools	Help				
nstructional	Methods 7	Гоој			
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	bles	Clear	Recommended Methods and Sequence of Instruction		
Action Verb					
Perform		~	Key Points for Success ~		
Performance L	evel		Facilitator Considerations		
P3 - Precision			Facilitators should:		
Definition			Create more complex exercises and require Soldiers to design their own procedures,		
To carry out an action	on or pattern of beh	avior.	develop troubleshooting techniques, find solutions to complex procedural problems, and discuss/present/debate within the group.		
Group Size			<ul> <li>Provide additional procedural information as just-in-time information, provide cues/examples, and ask and answer questions as needed for Soldiers to solve</li> </ul>		
1:16 or less			complex procedural problems.		
1:17 or greate	er		<ul> <li>Ask rapid questions, induce time constraints, etc. to simulate a real-world dynamic and challenging environment.</li> </ul>		
Experience			<ul> <li>Provide completion tasks with feedback if Soldiers are performing the tasks with errors until they demonstrate proficiency.</li> </ul>		
O New to task					
No task knowled	lge, no fundamentai task	ls.	Practical Exercise Considerations		
		tands fundamentals.	Peer-to-Peer Learning Considerations		
Proficient with task Definitive task knowledge, executes the fundamentals.		the foundamentals			
Dennitive task ki	nowiedge, executes	the rundamentalis.	Troubleshooting Example		
Other Verb	s at the sa	me Physical	Just-In-Time Information		
Level			Completion Task Example		
10					

~

Camouflage

Clear

Close

Fuel

Guard

Implement

Process

Produce

Protect

Instructional Methods Tool         Home       About Tool       Physical Verbs       Cognitive Verbs       Affective Domain       Methods of Instruction Crosswalk       Admin         Task Variables       Image: Completion State	Instructiona		501	
Task Variables       Ser         Action Verb          Perform          Definition          To carry out an action or pattern of behavior.       Soldiers could coach/mentor Soldiers with less experience.         I 13 fo reless          Particula Exercise Considerations          Not task       Soldiers should be provided the opportunity demonstrate proficiency by performing the tasks on their own in varied context.         Perforient with task       Soldiers should be able to provide full explanations of why they are performing the	ſ			
Action Verb         Perform         Performance Level         P3 - Precision         Definition         To carry out an action or pattern of behavior.         Group Size         11:16 or less         11:16 or less         11:17 or greater         Experience         New to task         No task knowledge, no fundamentals.         Pendiniting task knowledge, understande fundamentals.         Other Verbs at the same Physical Level         Adjust       Extend         Adjust       Extend         Adjust       Extend       Post         Adjust       Extend       Post         Align       Extract       Prepriere         Adjust       Extend       Post         Align       Extract       Prepriere         Adjust       Extend       Post         Align       Extract       Prepriere         Assemble       Forward       Prepriere         Adjust       Extend       Post         Align       Prepriere       Completion Task Example		Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Action Verb         Perform         Performance Level         P3 - Precision         Definition         To carry out an action or pattern of behavior.         Group Size         1:16 or less         1:16 or less         1:17 or greater         Experience         New to task         No task knowledge, no fundamentals.         Performinary task knowledge, understands fundamentals.         Other Verbs at the same Physical Level         Adjust       Extend         Adjust       Extend         Adjust       Extend         Adjust       Extend         Assemble       Portward         Prevent       Completion Task Fromward	Task Varia	ables	Clear	
Perform   Performance Level   P3 - Precision   Definition   To carry out an action or pattern of behavior.   Group Size   1:16 or less   1:17 or greater   Experience   New to task   No task knowledge, understands fundamentals.   Profinition with task   Proliminary task knowledge, understands fundamentals.   Profinition time task knowledge, understands fundamentals.   Profinition time task knowledge, understands fundamentals.   Proliminary task knowledge, executes the fundamentals.   Other Verbs at the same Physical Level   Level   Adjust   Adjust   Extract   Provent                              Adjust Extract Prepare   Assemble Forward Prevent	Action Verb			Recommended Methods and Sequence of Instruction
Performance Level         P3 - Precision         Definition         To carry out an action or pattern of behavior.         Group Size         1:16 or less         1:17 or greater         Experience         New to task No task knowledge, on fundamentals.         Perinitive task knowledge, understande fundamentals.         Perinitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Adjust       Extend       Post         Adjust       Extend       Post         Adjust       Extend       Post         Align       Extract       Prevent	Perform			Key Points for Success
Definition         To carry out an action or pattern of behavior.         Group Size         1:16 or less         1:17 or greater         Experience         New to task Mo task knowledge, no fundamentals.         Paniliar with task Perininger task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Adjust       Extend         Porward       Prevent	Performance	Level		Facilitator Considerations
<ul> <li>To carry out an action or pattern of behavior.</li> <li>Group Size         <ul> <li>1:16 or less</li> <li>Soldiers could cach mentor soldiers with less expendence.</li> <li>Soldiers could cach mentor process or system.</li> <li>Soldiers could be provided the opportunity to demonstrate proficiency at the beginning of the class by taking a pretest and 'testing out.'</li> <li>Soldiers abould be able to provide full explanations of why they are performing certain steps, how to troubleshoot faults, etc.</li> </ul> </li> <li>Assessment:         <ul> <li>Assess soldiers completeness in performing the tasks, soundness of troubleshooting or other problem-solving procedures, ability to teach others, etc.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> </ul> </li> <li>Peer-to-Peer Learning Considerations         <ul> <l< td=""><td colspan="3">P3 - Precision</td><td>Practical Exercise Considerations</td></l<></ul></li></ul>	P3 - Precision			Practical Exercise Considerations
<ul> <li>Soldiers could then be required to apply solutions to novel conditions.</li> <li>Soldiers could then be required to apply solutions to novel conditions.</li> <li>Soldiers could then be required to apply solutions to novel conditions.</li> <li>Exercises could include ambiguous or incorrect information regarding some of the injects into the system, tasks, or other procedures to determine the Soldiers' understanding of the entire process or system.</li> <li>Soldiers also alhould be provided the opportunity to demonstrate proficiency at the beginning of the class by taking a pre-test and 'testing out.'</li> <li>Soldiers also alhould be provided the opportunity to demonstrate proficiency at the beginning of the class by taking a pre-test and 'testing out.'</li> <li>Soldiers also alhould be provide full explanations of why they are performing the tasks on their own in varied contexts.</li> <li>Soldiers also alhould be able to provide full explanations of why they are performing certain steps, how to troubleshoot faults, etc.</li> <li>Assess Soldiers completeness in performing the tasks, soundness of troubleshooting or other problem-solving procedures, ability to teach others, etc.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> </ul>	Definition			Soldiers could coach/mentor Soldiers with less experience
Group Size       injects into the system, tasks, or other procedures to determine the Soldiers' understanding of the entire process or system.         I:16 or less       I117 or greater         I:17 or greater       Soldiers should be provided the opportunity to demonstrate proficiency at the beginning of the class by taking a pre-test and 'testing out'.         Soldiers should be able to provide full explanations of why they are performing the tasks on their own in varied contexts.         New to task nowledge, no fundamentals.         Familiar with task Preliminary task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical Level         Adjust       Extend       Post         Align       Extend       Post         Align       Extract       Prepare         Assemble       Forward       Prevent	To carry out an ac	tion or pattern of beha	vior.	<ul> <li>Soldiers could then be required to apply solutions to novel conditions.</li> </ul>
<ul> <li>Soldiers should be provided the opportunity to demonstrate proficiency at the beginning of the class by taking a pre-test and "testing out."</li> <li>Soldiers should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers should be provided the opportunity to demonstrate proficiency at the beginning of the class by taking a pre-test and "testing out."</li> <li>Soldiers should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers should be able to provide full explanations of why they are performing certain steps, how to troubleshoot faults, etc.</li> <li>Familiar with task preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Adjust Extend Post Align Extract Prepare Assemble Forward Prevent</li> <li>Soldiers acrose varied contexts ontil a high level of proficiency is demonstrated.</li> </ul>	Group Size			injects into the system, tasks, or other procedures to determine the Soldiers'
<ul> <li>1:17 or greater</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Adjust Extend Post Align Extract Prepare Assemble Forward Prevent</li> <li>Beginning of the class by taking a pre-test and 'testing out.'</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Soldiers also should demonstrate proficiency by performing the tasks on their own in varied contexts.</li> <li>Assess Soldiers completeness in performing the tasks, soundness of troubleshooting or other problem-solving procedures, ability to teach others, etc.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> <li>Peer-to-Peer Learning Considerations</li> <li>Just-in-Time Information</li> </ul>	0 1:16 or less			
Experience       varied contexts.         New to task       Soldiers should be able to provide full explanations of why they are performing certain steps, how to troubleshoot faults, etc.         Soldiers should be able to provide full explanations of why they are performing certain steps, how to troubleshoot faults, etc.         Familiar with task       Assess Soldiers completeness in performing the tasks, soundness of troubleshooting or other problem-solving procedures, ability to teach others, etc.         Perfinitive task knowledge, executes the fundamentals.       Test Soldiers across varied contexts until a high level of proficiency is demonstrated.         Other Verbs at the same Physical       Peer-to-Peer Learning Considerations         Level       Troubleshooting Example         Adjust       Extend       Post         Align       Extract       Prepare         Assemble       Forward       Prevent	1:17 or great	ter		beginning of the class by taking a pre-test and "testing out."
New to task         No task knowledge, no fundamentals.         Familiar with task         Preliminary task knowledge, understands fundamentals.         Proficient with task         Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Physical         Level         Adjust       Extend         Adjust       Extend         Align       Extend         Forward       Prepare         Assemble       Forward	Experience			varied contexts.
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Adjust Extend Post Align Extract Prepare Assemble Forward Prevent</li> <li>Assessment</li> <li>Assessment in task, soundness of troubleshooting or other problem-solving procedures, ability to teach others, etc.</li> <li>Test Soldiers under high-workload conditions.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> </ul>	<u> </u>			
Preliminary task knowledge, understands fundamentals.            • Proficient with task         Definitive task knowledge, executes the fundamentals.             • Other Verbs at the same Physical         Level             Adjust         Adjust         Extend         Post         Align         Extract         Prepare         Assemble         Forward         Prevent				Assessment
<ul> <li>Proticient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> <li>Adjust Extend Post Align Extract Prepare Assemble Forward Prevent</li> <li>Test Soldiers under high-workload conditions.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> <li>Test Soldiers across varied contexts until a high level of proficiency is demonstrated.</li> </ul>			nds fundamentals.	
Other Verbs at the same Physical     Peer-to-Peer Learning Considerations       Level     Troubleshooting Example       Adjust     Extend     Post       Align     Extract     Prepare       Assemble     Forward     Prevent	<u> </u>			
Level     Troubleshooting Example       Adjust     Extend       Adjust     Extend       Peer-to-Peer Learning Considerations       Troubleshooting Example       V       Adjust       Extract       Prepare       Just-in-Time Information       Assemble       Forward       Prevent	Definitive task	knowledge, executes tl	e fundamentals.	
Level     Troubleshooting Example       Adjust     Extend     Post       Align     Extract     Prepare       Assemble     Forward     Prevent	Other Verl	os at the sar	ne Physical	Peer-to-Peer Learning Considerations
Adjust     Extend     Post       Align     Extract     Prepare       Assemble     Forward     Prevent	Level			
Align     Extract     Prepare     Just-in-Time Information       Assemble     Forward     Prevent	Adjust	Extend	Post	
Completion Task Example	Align			Just-in-Time Information
				Completion Task Example
Clear Guard Produce	Close	Implement	Protect	

nstructiona	I Methods To				
		loo			
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L		
Task Varia	ablee				
	ables	Clear	Recommended Methods and Sequence of Instruction		
Action Verb			Key Points for Success		
Perform		×	Facilitator Considerations		
Performance	Level				
P3 - Precision			Practical Exercise Considerations 🗸		
Definition			Peer-to-Peer Learning Considerations		
To carry out an act	tion or pattern of behav	ior.	The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes		
Group Size			through the interaction of equal-status individuals as opposed to the traditional teacher-		
1:16 or less			Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights through practical experience.		
1:17 or greater			In this instance, the P2P method of instruction for hands-on tasks is generally used to:		
Experience			Increase Soldier time-on-task		
O New to task			Key points to consider.		
	edge, no fundamentals.		<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> </ul>		
Familiar with Preliminary tas	n task <i>k knowledge, understar</i>	nds fundamentals	<ul> <li>The P2P approach takes the Facilitator out of the "expert lecturer" role.</li> <li>Facilitators must monitor peer learning to ensure correct information is</li> </ul>		
Proficient with the second			disseminated.		
Definitive task knowledge, executes the fundamentals.			<ul> <li>Soldier task proficiency must be assessed.</li> <li>Before – to determine the Soldier's level of understanding/proficiency and identify peer-facilitators</li> </ul>		
Other Verbs at the same Physical			<ul> <li>During – to estimate understanding/proficiency and track progress in accomplication the training objectives</li> </ul>		
Level			accomplishing the training objectives <ul> <li>After – to assess what the Soldier learned</li> </ul>		
			<ul> <li>P2P training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul>		
Adjust	Extend	Post	untrences.		
Align Assemble	Extract Forward	Prepare Prevent			
Camouflage	Fuel	Process	Troubleshooting Example		
Clear	Guard	Produce	Just-in-Time Information		
Close	Implement	Protect			

## < 🕢 🕼 http://www.lcs.ts.northropgrumman.com/projects/init/Tname=Perform&type=1&cvalue=3&cg 🔹 🗸 🍏 Instructional Methods Tool 🛛 🗴

- □ ×

#### Eile Edit View Favorites Tools Help

To carry out an action or pattern of behavior.

#### Group Size

1:16 or less

1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

 Familiar with task Preliminary task knowledge, understands fundamentals.

 Proficient with task Definitive task knowledge, executes the fundamentals.

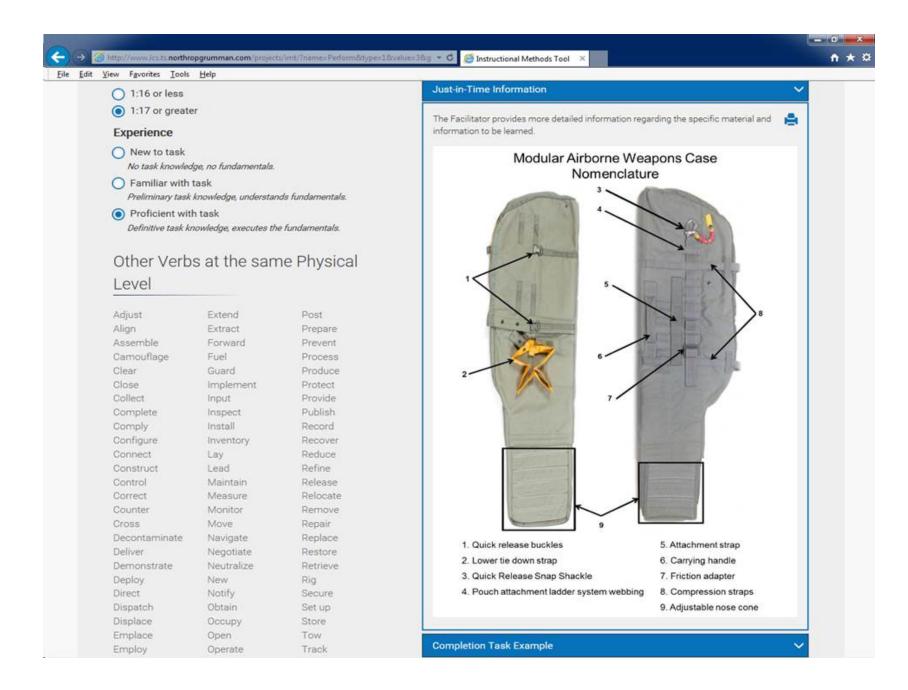
# Other Verbs at the same Physical

## Level

Adjust	Extend	Post
Align	Extract	Prepare
Assemble	Forward	Prevent
Camouflage	Fuel	Process
Clear	Guard	Produce
Close	Implement	Protect
Collect	Input	Provide
Complete	Inspect	Publish
Comply	Install	Record
Configure	Inventory	Recover
Connect	Lay	Reduce
Construct	Lead	Refine
Control	Maintain	Release
Correct	Measure	Relocate
Counter	Monitor	Remove
Cross	Move	Repair
Decontaminate	Navigate	Replace
Deliver	Negotiate	Restore
Demonstrate	Neutralize	Retrieve
Deploy	New	Rig
Direct	Notify	Secure
Dispatch	Obtain	Set up

Troubleshooting Example	×
Task Number: 071-120-0200	4
Task Title: Perform Jumpmaster Duties during a	n Airborne Operation
Sub Task: Conduct Jumpmaster Personnel Inspe	ection (JMPI)
Condition 1: T-11 Hollywood Parachutist	
<ol> <li>The Facilitator demonstrates the correct m</li> <li>The Facilitator induces major and minor er</li> <li>The Soldier jumpmaster (JM) is required to and report major and minor rigging deficie</li> </ol>	rors in the parachute assembly. conduct a personnel inspection and find
Condition 2: T-11 Combat Equipped Parachutist	
<ol> <li>The Facilitator demonstrates the correct m</li> <li>The Facilitator induces major and minor er</li> <li>The Soldier jumpmaster (JM) is required to and report major and minor rigging deficie</li> </ol>	rors in the parachute assembly. conduct a personnel inspection and find
Jumpmaster Personnel Condition 1: T-11 Holly	
FACILITATOR-INDUCED ERRORS	FACILITATOR FEEDBACK
Error: Inverted chin strap Error: Canopy release not properly seated Error: Reserve upside-down Error: Leg strap not	Use correct nomenclature Why is the Canopy release not properly seated ? What is the correction needed? How should the
routed through aviator's kit bag	leg strap be routed through aviator's kit bag?
Jumpmaster Personnel Condition 2: T-11 Combat I	

<u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools	Help			
Collect	Input	Provide	chinistiap	nomenciatore
Complete	Inspect	Publish	Error: Canopy release	Why is the Canopy
Comply	Install	Record	not properly seated	release not properly seated ?
Configure	Inventory	Recover		
Connect	Lay	Reduce	Error: Reserve	What is the correction
Construct	Lead	Refine	upside-down	needed?
Control	Maintain	Release	Error: Leg strap not	How should the
Correct	Measure	Relocate	routed through	leg strap be routed
Counter	Monitor	Remove	aviator's kit bag	kit bag?
Cross	Move	Repair		an Kitbagr
Decontaminate	Navigate	Replace	CI.	
Deliver	Negotiate	Restore	J.	2
Demonstrate	Neutralize	Retrieve	Ć.	
Deploy	New	Rig	hannander Democrat	Unergenties (IMO)
Direct	Notify	Secure	Jumpmaster Personne Condition 2: T-11 Combat	Equipped Parachutist
Dispatch	Obtain	Set up	Condition 2: 1-11 Combat	Equipped Paracifutist
Displace	Occupy	Store	FACILITATOR-INDUCED ERRORS	FACILITATOR FEEDBACK
Emplace	Open	Tow	di.	
Employ	Operate	Track	Error: Slide fastener tab –	Use correct
Enforce	Order	Train	thong not routed around 🔪 🕷	nomenclature
Erect	Orient	Transport	the lift-the-dot post	(not zipper)
Escort	Patrol	Treat	Error: Slide	Why must the slide
Evacuate	Perform	Troubleshoot	fastener	fastener be properly
Evade	Place	Turn	not secured	secured?
Evaluate	Plot	Zero		
Exchange	Position		Error: Equipment	What is the correction
			harness frayed	needed?
			Error: Leg strap	How should the
			misrouted	leg strap be routed?
				a legislidp be fouries.
				ş
				1
			Just-in-Time Information	~
			Completion Task Example	~



ew Fgvorites Tools	Help		Just-in-Time Information			
1:16 or less						
1:17 or greate	25		Completion Task Example			\$
Experience						
New to task					and the second	
No task knowledge, no fundamentals.		TASK: Conduct Jumpmaste T-11 Combat Equ	ir Personnel Insp uipped Parachut	ection (JMPI) ist	COMPLETION TASK	
<ul> <li>Familiar with</li> </ul>		3 2 3 - C		COMPLETIO	ON TASK OPTIONS	First the facilitator
	knowledge, understai	nds fundamentals.	STEPS	2		demonstrates the task
Proficient wit			100000000	3123456	7 8 9 10 11 12 13 14 15 16	from beginning to end while the Soldiers
Definitive task ki	nowledge, executes th	e rundamentais.	Step 1 Advanced Combat Helmet (Front)			watch.
Other Verb	s at the san	ne Physical	Step 2 Canopy Release Assembly	0 B		The Facilitator could provide the opportunity for the
Level			Step 3 Main Lift Web	ATO		Soldier to "Test-Out" at the beginning of
Adjust	Extend	Post	Step 4 Chest Strap	T/		the lesson If the Soldier performs
Align	Extract	Prepare	Step 5	5		the task with errors,
Assemble	Forward	Prevent	Waist Band	_		the Facilitator and Soldier perform the
Camouflage	Fuel	Process	Step 6	U		task steps up to the
Clear	Guard	Produce	Modular Airborne Weapons Case	A		error and then the
Close	Implement	Protect	Step 7	ш		Soldier completes the remaining task steps
Collect	Input	Provide	MOLLE Rucksack			alone
Complete	Inspect	Publish	Step 8 HPT Lowering Line			
Comply	Install	Record	Step 9			
Configure	Inventory	Recover	Leg Straps			
Connect	Lay	Reduce	Step 10			
Construct	Lead	Refine	Universal Static Line			
Control	Maintain	Release	Step 11			
Correct	Measure	Relocate	T-11 Reserve		S	
Counter	Monitor	Remove	Step 12 Advanced Combat Helmet (Back)		8	
Cross	Move	Repair	Step 13		<u>ш</u>	
Decontaminate	Navigate	Replace	Step 13 Riser Assemblies		+	
Deliver	Negotiate	Restore	Step 14		0	
Demonstrate	Neutralize	Retrieve	Packtray			
Deploy	New	Rig	Step 15		0	
Direct	Notify	Secure	Diagonal/Horizontal Back Straps		S	
Dispatch	Obtain	Set up	Step 16			
Displace	Occupy	Store	Saddle			

# Appendix K

Military Task Examples P4 - Articulation / Small Group / Familiar with Task

nstruction	al Methods To	ool						
notractione								
1	Home About T	ool Physical Verbs	Cognitive Verbs	Affective Domain Methods of Instruction Crossv	valk Admin			
Task Vari	ables	Clear						
Action Verb			Recommend	led Methods and Sequence of Instruction	~			
Engage		~	Choose the m	ethod of instruction based on the "Time of Instruction" for the	ELO. 🚔			
	Louis		Time of Instruction	Method of Instruction				
Performance P4 - Articulation	Level		4-8 hours	Less proficient Soldiers				
Definition				Demonstration then multiple practice sessions using training aids or actual equipment More proficient Soldiers Perform PEs that reflect tasks they would perform on the job.				
	To enter into contest or battle, to fight.							
	Group Size			Less proficient Soldiers Cycle of demonstrations and practice				
<ul> <li>1:16 or less</li> </ul>				opportunities, probing questions, and feedback; more rigorous proficiency tests could be implemented				
0 1:17 or grea				<ul> <li>More proficient Soldiers Test proficiency and then have them assist in preparing lessons, teaching, and researching for longer</li> </ul>				
Experience				assignments	9			
O New to task								
No task knowl	ledge, no fundamentals. h task		Key Points fo	or Success	~			
<b>—</b>	sk knowledge, understar	ods fundamentals.	Conflicter O					
O Proficient w		o foradomento la	Pacinitator Co	Facilitator Considerations				
Demnive lask	Definitive task knowledge, executes the fundamentals.			Practical Exercise Considerations				
Other Ver	bs at the san	ne Physical	Demonstrati	on Considerations	~			
Level			Other Consid	derations	×			
Assault	Destroy	Integrate	Demonstrati	on of a Team/System Example	~			
Attack Breach	Develop Disengage	Land Launch	Team/Syste	m Practical Exercise Example	~			
Coordinate Defend	Engage	Modify	Dealawarda	ading Example	14			

Instructional Methods Tool	
Home About Tool Physical	Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Variables	Clear Recommended Methods and Sequence of Instruction
Action Verb	
Engage	Key Points for Success
Performance Level	Soldiers should practice performing two or more tasks together as part of a
P4 - Articulation	<ul> <li>system.</li> <li>Soldiers should be provided PEs across multiple contexts for varied practice.</li> </ul>
Definition	<ul> <li>Soldiers should learn the deep structural aspects of the procedures even if the surface-level conditions change.</li> </ul>
To enter into contest or battle, to fight.	Exercises should require Soldiers to integrate individual tasks into a larger system or
	<ul><li>during collective task performance.</li><li>More proficient Soldiers could coach and mentor less-experienced Soldiers.</li></ul>
Group Size 1:16 or less	<ul> <li>Facilitators should provide feedback.</li> </ul>
1:17 or greater	
Experience	Facilitator Considerations
New to task	Practical Exercise Considerations
No task knowledge, no fundamentals.	Demonstration Considerations
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	
Preliminary task knowledge, understands fundamentals.     Proficient with task	Other Considerations
Definitive task knowledge, executes the fundamentals.	Demonstration of a Team/System Example
Other Verbe at the same Physical	Team/System Practical Exercise Example
Other Verbs at the same Physical	
Level	Backwards Fading Example 🗸 🗸

K-3

~

Coordinate

Defend

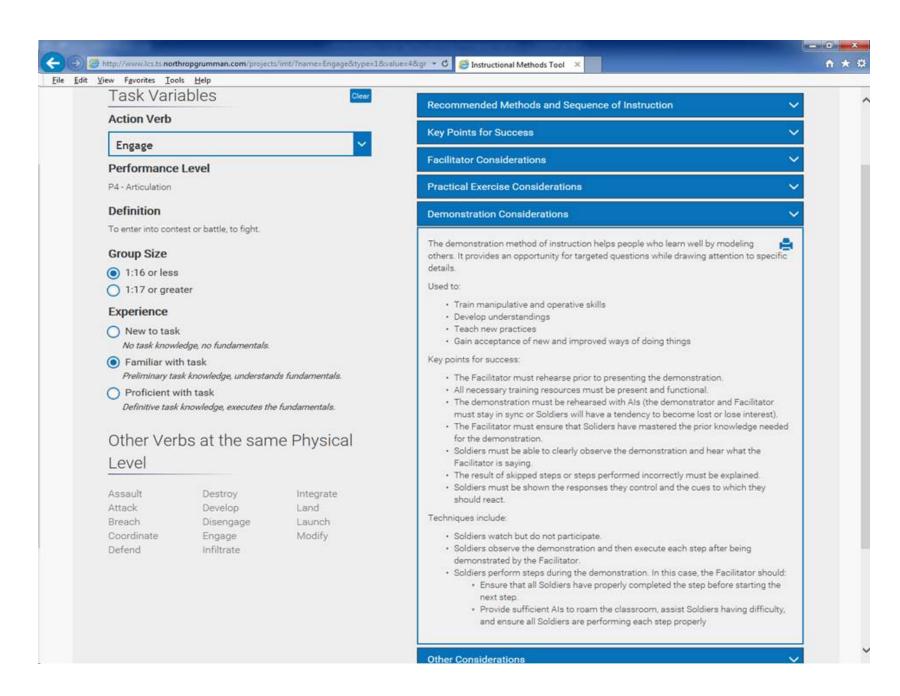
Engage

Infiltrate

Modify

٦	Home About T	ool Physical Verbs			
		our Physical verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	ables	Clear	Recommended Methods and Sequence of Instruction		
Action Verb					
Engage		~	Key Points for Success		
Performance	Level		Facilitator Considerations		
P4 - Articulation			Facilitators should:		
Definition			Provide demonstrations of how individual tasks are integrated into larger systems		
To enter into contest or battle, to fight.			and performed as part of collective tasks. <ul> <li>Ask the Soldiers to explain why they are performing certain errors, why they are</li> </ul>		
Group Size			performing certain steps, how they might troubleshoot faults. <ul> <li>Ask Soldiers to explain how their tasks are integrated with crew/team-based</li> </ul>		
1:16 or less     1:17 or greater Experience			performance or in larger systems.		
			<ul> <li>Provide additional procedural information or demonstrations of more advanced techniques prior to more complex PEs.</li> </ul>		
			<ul> <li>Increase the complexity of their questions, the rate at which they ask questions, etc. to induce realism of performing these tasks in high stakes dynamic situations.</li> </ul>		
O New to task			<ul> <li>Continue to assess Soldiers to ensure that they perform the individual tasks</li> </ul>		
	edge, no fundamentals.		<ul> <li>(including sub-tasks and sub-goals) at an autonomous level.</li> <li>Continue to provide feedback on how the Soldiers are performing multiple tasks together.</li> </ul>		
Familiar with Preliminary tas	h task <i>sk knowledge, understa</i> i	nds fundamentals.			
O Proficient w	ith task				
Definitive task	knowledge, executes ti	ne fundamentals.	Practical Exercise Considerations		
Other Ver	bs at the sar	ne Physical	Demonstration Considerations		
Level	05 41 110 541	ne i nysicai	Other Considerations		
Level					
Assault	Destroy	Integrate	Demonstration of a Team/System Example		
Attack Breach	Develop Disengage	Land Launch	Team/System Practical Exercise Example		
Coordinate	Engage	Modify	Backwards Fading Example		
Defend	Infiltrate				
	Infiltrate				

ew F <u>a</u> vorites <u>I</u> oo	ls <u>H</u> elp			
nstructiona	al Methods To	ool		
r				
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Vari	ables	Clear		
Action Verb			Recommended Methods and Sequence of Instruction	
Engage		~	Key Points for Success	
Performance	Level		Facilitator Considerations       V         Practical Exercise Considerations       V	
P4 - Articulation	Level			
Definition			Practical Exercises:	
To enter into contest or battle, to fight.			Should be demonstrated to the Soldiers to provide examples of how two or more	
Group Size			<ul> <li>tasks are combined as part of a system.</li> <li>Could be provided to the Soldiers as completion tasks or backwards fading of complete examples of how two or more tasks are performed together.</li> </ul>	
1:16 or less				
O 1:17 or greater			<ul> <li>Could require Soldiers to perform tasks as part of crews/teams and explain how their individual tasks support crew/team performance.</li> </ul>	
Experience			Assessments	
O New to task			<ul> <li>Soldiers should be tested on the full integration of the two or more tasks and be provided with feedback by the Facilitators.</li> <li>Assessments could include asking Soldiers to perform multiple tasks in varied and novel conditions (e.g., performing tasks in novel terrain, weather).</li> <li>Assessments could focus on how Soldiers visualize or perform individual tasks within larger systems, teams, etc.</li> </ul>	
Familiar wit	<i>ledge, no fundamentals.</i> h task			
	sk knowledge, understa	nds fundamentals.		
O Proficient w				
Definitive task	knowledge, executes ti	te fundamentals.		
Other Ver	bs at the sar	ne Physical	Demonstration Considerations	
Level			Other Considerations	
Assault	Destroy	Integrate	Demonstration of a Team/System Example	
Attack Breach	Develop Disengage	Land Launch	Team/System Practical Exercise Example	
SICOUT	Discrigage	Louinti		



ew F <u>a</u> vorites <u>T</u> ool	s <u>H</u> elp				
nstructiona	al Methods T	ool			
ſ	Home About	Fool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L		
Task Varia	ables	Clear			
Action Verb			Recommended Methods and Sequence of Instruction		
			Key Points for Success     V       Facilitator Considerations     V		
Engage		<b>`</b>			
Performance	Level				
P4 - Articulation			Practical Exercise Considerations		
Definition			Demonstration Considerations		
To enter into conte	est or battle, to fight.		Other Considerations 🗸		
Group Size					
1:16 or less			<ul> <li>Rehearsals, practice, assessments, and feedback could focus on the integration of these skills in a larger context.</li> <li>Simulators such as CCTT, VBS3 could be employed to rehearse and practice</li> </ul>		
1:17 or grea	ter				
Experience			crew/team collective performance prior to live exercises. <ul> <li>With longer classes, highly proficient Soldiers could design products; repair live</li> </ul>		
O New to task			equipment; perform on-the-job training; shadow Facilitators; demonstrate tasks to		
	edge, no fundamentals	i.	different audiences; and prepare explanations, briefings, papers to unit leaders, stakeholders, etc.		
Familiar with Preliminary tas	n task <i>k knowledge, understa</i>	nds fundamentals.			
O Proficient w			Demonstration of a Team/System Example		
Definitive task	knowledge, executes t	he fundamentals.	Team/System Practical Exercise Example		
Other Verl	os at the sar	ne Physical	Backwards Fading Example		
Level			Town (Control DE with Insurance Constants Example)		
Assault	Destroy	Integrate	Team/System PE with Increasing Complexity Example		
Attack	Develop	Land			
Breach	Disengage	Launch			

~

Engage

Infiltrate

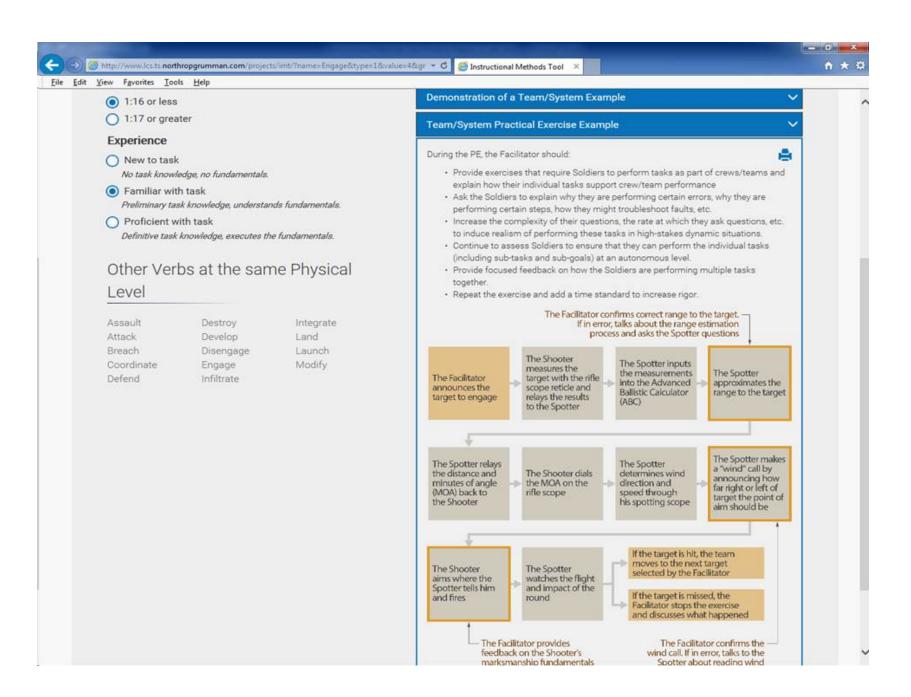
Modify

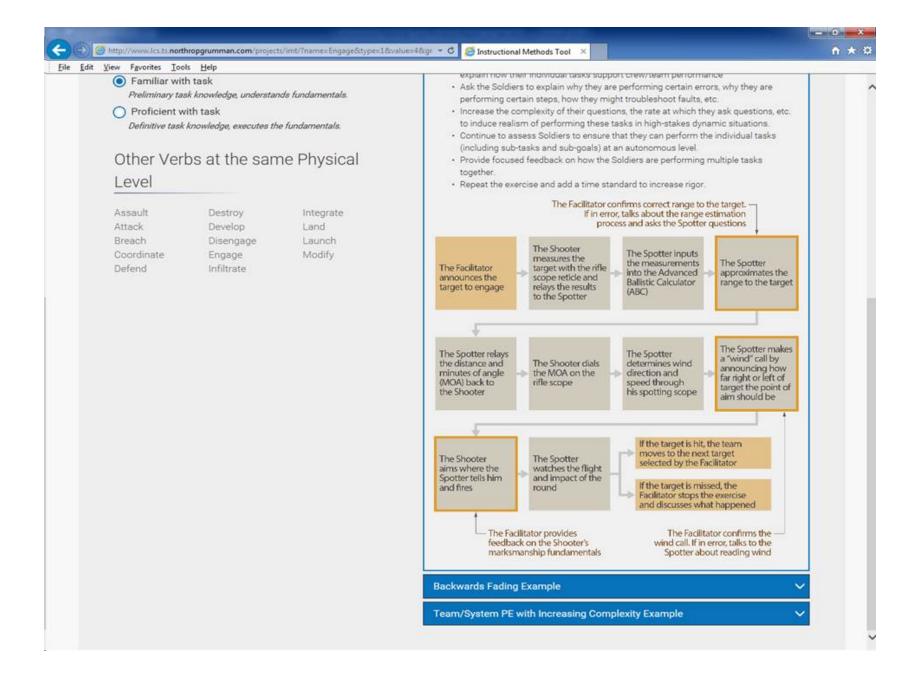
Coordinate

Defend

dit View Favorites Ioo	and the second		Demonstration of a Team/System Example		
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Physical Level</li> </ul>			Task Number: 071-FRBLC023		
			Task Title: Field Fire 1 Engage Stationary Targets with the M110 (SASS)		
			A Sniper Team (Shooter and Spotter) will engage targets at unknown distances on an unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by:		
			<ul> <li>Accurately recording cold barrel and confirmation shot placement, and elevation and windage adjustments and holds.</li> <li>Properly identifying targets.</li> <li>Accurately determining range to targets.</li> <li>Accurately utilizing the ABC.</li> </ul>		
			Prior to the demonstration the Facilitator should accomplish the following:		
Assault Attack Breach Coordinate Defend	Assault Destroy Integrate Attack Develop Land Breach Disengage Launch Coordinate Engage Modify	Land Launch	<ul> <li>Arrange the area so all Soldiers can see and hear the demonstration.         <ul> <li>Situate the small group near/around the demonstrator(s)</li> <li>If there is a large group, arrange the Soldiers around multiple assistants who mimic the actions of the Facilitator.</li> </ul> </li> <li>During the demonstration         <ul> <li>Facilitators can provide demonstrations on how individual tasks (identifying targets, determining range, utilizing the ABC, etc.) are integrated and performed as part of collective tasks (shot process).</li> <li>The shot process can be demonstrated at normal speed</li> </ul> </li> </ul>		
		The Sniper Team selects a target The Spotter inputs target with the rifle scope reticle and relays the results to the Spotter Participation of the Advanced Ballistic Calculator (ABC) The Spotter inputs the measurements Ballistic Calculator (ABC)			
			-		
			The Spotter relays the distance and inducts of angle (MOA) back to the Shooter (MOA) back to (MOA) back to (		

Edit	View Favorites Ioo	ils <u>H</u> elp		ralute=48:gr - C 🦉 Instructional Methods Tool X		
Other Verbs at the same Physical		ne Physical	Accurately determining range to targets.     Accurately utilizing the ABC.			
Level				Prior to the demonstration the Facilitator should accomplish the following:		
	Assault Destroy Attack Develop Breach Disengage Coordinate Engage Defend Infiltrate	Integrate Land Launch Modify	Arrange the area so all Soldiers can see and hear the demonstration.     Situate the small group near/around the demonstrator(s)     If there is a large group, arrange the Soldiers around multiple assistants who mimic the actions of the Facilitator. During the demonstration     Facilitators can provide demonstrations on how individual tasks (identifying targets, determining range, utilizing the ABC, etc.) are integrated and performed as part of collective tasks (shot process).     The shot process can be demonstrated at normal speed			
				The Sniper Team selects a target The Shooter measures the target with the rifle scope reticle and relays the results to the Spotter (ABC) The Spotter inputs the measurements into the Advanced Ballistic Calculator (ABC)		
				The Spotter relays the distance and minutes of angle (MOA) back to the Shooter a "wind" call by The Shooter dials the MOA on the rifle scope the Shooter dials the MOA on the rifle scope the Shooter dials the MOA on the rifle scope		
				The Shooter aims where the Spotter tells him and fires The Spotter watches the flight and impact of the round The Spotter the target is hit, the team moves to the next target If the target is hit, the team moves to the next target If the target is hit, the team moves to the next target If the target is nissed, the team makes corrections and re-engages		
				Team/System Practical Exercise Example		
				Backwards Fading Example 🗸 🗸 🗸		
				Team/System PE with Increasing Complexity Example		





## 🛞 🎯 http://www.Ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&gr 👻 🧔 Instructional Methods Tool

## 1:16 or less

1:17 or greater

#### Experience

File Edit View Favorites Tools Help

4

New to task No task knowledge, no fundamentals.

Familiar with task Preliminary task knowledge, understands fundamentals.

Proficient with task Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Physical

### Level

Assault Destroy Attack Develop Breach Disengage Coordinate Engage Defend Infiltrate

Integrate

Land

Launch

Modify

Demonstration of a Team/System Example

#### Team/System Practical Exercise Example

#### **Backwards Fading Example**

Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials.

Used to:

- · Teach tasks to individuals who have no prior knowledge of the task
- · Teach tasks that are cumulative in nature (relationship between steps)
- · Move individuals from worked examples to problem solving

#### Key points for success:

- · Ongoing evaluation of the Soldier's performance is required.
- · The Facilitator determines when to remove instructional support based on the Soldier's performance.

#### Techniques include:

- · Together, the Facilitator and Soldier perform a series of trials (attempts) that the facilitator and Soldier perform together.
- · In early learning trials, both the Soldier and the Facilitator are involved in performing task steps.
- · In later learning trials, more and more of the task steps are performed by the Soldier alone.

Field Fire I with the M1 Semi-Automated Sniper Syste				BACKWARDS FADING		
	TRIALS			First the facilitator demonstrates the task		
STEPS	Dema	4.5 6				
The Sniper Team selects a target						
The Shooter measures the target with the rifle scope reticle and relays the results to the Spotter	ATOR			In other words, each Soldier watches ar mimics the task steps performed by the facilitator. There are no 'Soldier only' str in this trial.		
The Spotter inputs the measurements into the ABC				Trial 2 - The facilitator and the Soldiers perform the first eight task steps and the		
The Spotter approximates the range to the target	-	15311		Soldiers perform the last two task steps alone.		
The Spotter relays the distance and minutes of angle (MOA) back to the Shooter	ACII			Trial 3 - The facilitator and the Soldier perform the first six task steps and th Soldiers perform the last four task ste		
The Shooter dials the MOA on the rifle scope	F/			alone. Trial 4 - The facilitator and the Soldiers		
The Spotter determines wind		S		perform the first four task steps and the		

#### 🥶 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&igr 👻 🖸 Instructional Methods Tool 合 ★ 泣 File Edit View Favorites Tools Help Soldier's performance. Assault Destroy Integrate Techniques include: Attack Develop Land Breach Disengage Launch · Together, the Facilitator and Soldier perform a series of trials (attempts) that the facilitator and Soldier perform together. Coordinate Engage Modify · In early learning trials, both the Soldier and the Facilitator are involved in performing Defend Infiltrate task steps. . In later learning trials, more and more of the task steps are performed by the Soldier alone. Field Fire I with the M110 BACKWARDS FADING Semi-Automated Sniper System (SASS) TRIALS First the facilitator demonstrates the task STEPS from beginning to end while the Soldiers 0121456 watch. The Sniper Team selects a target Trial 1 - Begins as a guided demonstration. In other words, each Soldier watches and The Shooter measures the target with R mimics the task steps performed by the the rifle scope reticle and relays the 0 facilitator. There are no 'Soldier only' steps results to the Spotter in this trial. 1 The Spotter inputs the measurements A Trial 2 - The facilitator and the Soldiers into the ABC perform the first eight task steps and the 1 The Spotter approximates the range Soldiers perform the last two task steps to the target alone. \_\_\_\_\_ The Spotter relays the distance and Trial 3 - The facilitator and the Soldiers ---minutes of angle (MOA) back to the U perform the first six task steps and the Shooter Soldiers perform the last four task steps A alone. The Shooter dials the MOA on the rifle LL scope Trial 4 - The facilitator and the Soldiers S perform the first four task steps and the The Spotter determines wind R Soldiers perform the last six task steps direction and speed through his alone. spotting scope ш ----Trial 5 - The facilitator and the Soldiers The Spotter makes a "wind call" by perform the first two task steps and the 0 announcing how far right or left of Soldiers perform the last eight task steps target the point of aim should be 1 alone. The Shooter aims where the Spotter 0 Trial 6 - The Soldiers complete the whole tells him and fires S task by themselves. The Spotter watches the flight and In this example the 10 task steps are impact of the round chunked, i.e. 1+2, 3+4, 5+6, 7+8, and 9+10 If the target is hit, the team moves to the next target based on the complexity of the task. If the target is missed, the facilitator stops the exercise and discusses what happened Team/System PE with Increasing Complexity Example

- 0 - X

#### 🐑 🧑 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&gr 👻 🖉 Instructional Methods Tool 🛛 🗙

× 0 - 1

#### File Edit View Favorites Tools Help

No task knowledge, no fundamentals.

- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task
   Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical Level

Assault	Destroy	Integrate	
Attack	Develop	Land	
Breach	Disengage	Launch	
Coordinate	Engage	Modify	
Defend	Infiltrate		

#### Team/System PE with Increasing Complexity Example Task Number: 071-FRBLC025 Task Title: Field Fire 2 Engage Moving Targets with the M110 (SASS) A Sniper Team (Shooter and Spotter) will engage moving targets at unknown distances on an unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by: · Properly identifying targets · Accurately determining range to targets · Accurately utilizing the ABC to determine time of flight of the round · Accurately compensating for wind effects on the trajectory of the round · Accurately determining the angle of the target's movement · Accurately determining the speed of the target · Accurately applying the appropriate engagement technique: · Trapping · Tracking The Shooter The Spotter inputs measures the the measurements The Spotter The Sniper Team target with the rifle into the Advanced approximates the scope reticle and selects a target **Ballistic Calculator** range to the target relays the results (ABC) to the Spotter The Spotter The Shooter The Spotter relays determines the the distance and The Shooter dials determines the amount of lead minutes of angle (MOA) back to the MOA on the speed and angle for the moving rifle scope of movement of target and relays the Shooter the target to the Shooter The Spotter makes The Shooter The Spotter a "wind" call by The Spotter applies the determines wind compensates for announcing how moving target direction and wind and target far right or left of engagement speed through target the point of technique and directions his spotting scope aim should be fires

If the target is hit, the team moves

to the next target

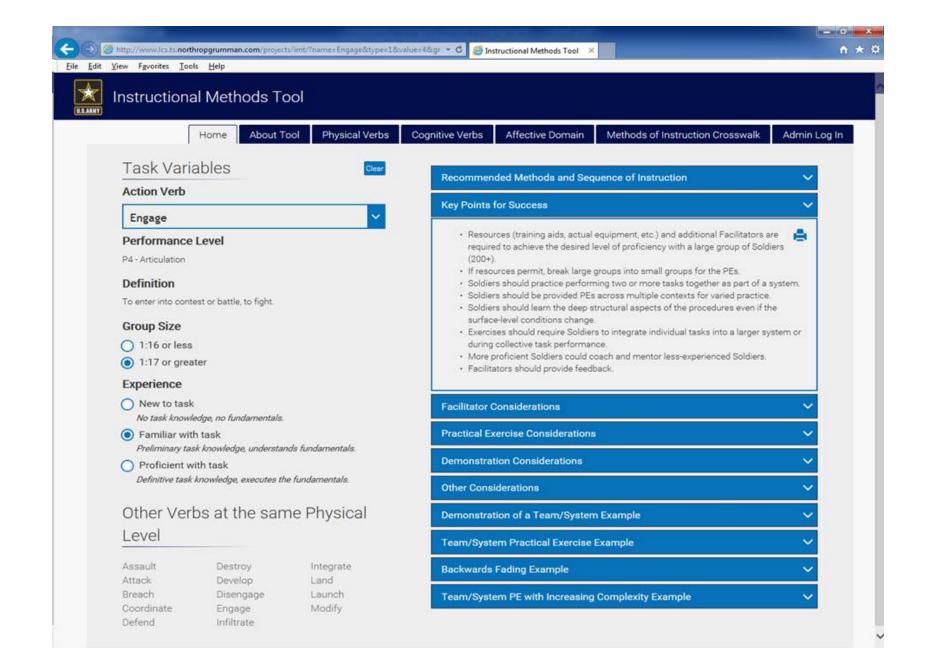
The Spotter

 (iew F <u>a</u> vorites <u>T</u> ools	and the second		an unknown distance range with a sniper weapon system to verify data provided through
	os at the san	ne Physical	proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by:
Level Assault Attack Breach Coordinate Defend	Destroy Develop Disengage Engage Infiltrate	Integrate Land Launch Modify	<ul> <li>Properly identifying targets</li> <li>Accurately determining range to targets</li> <li>Accurately utilizing the ABC to determine time of flight of the round</li> <li>Accurately compensating for wind effects on the trajectory of the round</li> <li>Accurately determining the angle of the target's movement</li> <li>Accurately determining the speed of the target</li> <li>Accurately applying the appropriate engagement technique:         <ul> <li>Trapping</li> <li>Tracking</li> </ul> </li> </ul>
			The Sniper Team selects a target with the rifle sciper teicle and relays the results to the Spotter of the Spotter (ABC) The Spotter inputs the measurements into the Advanced Ballistic Calculator (ABC)
			The Spotter relays the distance and minutes of angle (MOA) back to the Shooter (MOA) back to the Shooter
			The Spotter determines wind direction and speed through his spotting scope
			+
			The Spotter watches the flight and impact of the round If the target is hit, the team moves to the next target If the target is missed, the team makes corrections and re-engages

# Appendix L

Military Task Examples P4-Articulation / Large Group / Familiar with Task

notraotione	al Methods To				
i C					
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	ables	Clear	Recommended Methods and Sequence of Instruction		
Action Verb					
Engage		~	Direct Instruction and Experiential Learning		
Performance	Level		Choose the method of instruction based on the "Time of Instruction" for the ELO.		
P4 - Articulation			Time of Method of Instruction Instruction		
Definition			4-8 hours • Less proficient Soldiers Demonstration then multiple practice sessions using training aids or actual equipment.		
To enter into cont	est or battle, to fight.		<ul> <li>More proficient Soldiers Perform PEs that reflect tasks they would perform on the job.</li> </ul>		
Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>			Multiple Days · Less proficient Soldiers Cycle of demonstrations and practice		
			opportunities, probing questions, and feedback; more rigorous proficiency tests could be implemented.		
			More proficient Soldiers Test proficiency and then have them assist     in preparing lessons, teaching, and researching for longer		
Experience			assignments.		
New to task	edge, no fundamentals.				
Familiar wit     Preliminary tas	h task sk knowledge, understar	nds fundamentals.	Key Points for Success		
O Proficient w	ith task <i>knowledge, executes th</i>	e fundamentals.	Facilitator Considerations		
	5		Practical Exercise Considerations		
Other Verbs at the same Physical			Demonstration Considerations		
Level			Other Considerations		
Assault Attack	Destroy Develop	Integrate Land	Demonstration of a Team/System Example		
Breach Coordinate	Disengage Engage	Launch Modify	Team/System Practical Exercise Example		
Defend	Infiltrate	wouny			



	al Methods To	loc			
ſ	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction		
Action Verb					
Engage		~	Key Points for Success		
Performance	Level		Facilitator Considerations		
P4 - Articulation			Facilitators should:		
Definition			Provide demonstrations of how individual tasks are integrated into larger systems		
To enter into cont	est or battle, to fight.		<ul> <li>and performed as part of collective tasks.</li> <li>Ask the Soldiers to explain why they are performing certain errors, why they are performing certain steps, how they might troubleshoot faults.</li> <li>Ask Soldiers to explain how their tasks are integrated with crew/team-based</li> </ul>		
Group Size					
0 1:16 or less			performance or in larger systems.		
1:17 or great	ater		<ul> <li>Provide additional procedural information or demonstrations of more advanced techniques prior to more complex PEs.</li> </ul>		
Experience			<ul> <li>Increase the complexity of their questions, the rate at which they ask questions, etc. to induce realism of performing these tasks in high stakes dynamic situations.</li> </ul>		
O New to task			Continue to assess Soldiers to ensure that they perform the individual tasks		
No task knowledge, no fundamentals.  Familiar with task Preliminary task knowledge, understands fundamentals.			<ul> <li>(including sub-tasks and sub-goals) at an autonomous level.</li> <li>Continue to provide feedback on how the Soldiers are performing multiple tasks together.</li> </ul>		
O Proficient w	vith task <i>knowledge, executes tl</i>	e fundamentals.	Practical Exercise Considerations		
Other Ver	bs at the sar	ne Physical	Demonstration Considerations		
Level	bo at the our	ine i nyolodi	Other Considerations		
-	1 23 / Maria		Demonstration of a Team/System Example		
Assault Attack	Destroy Develop	Integrate Land	Team/System Practical Exercise Example		
Breach	Disengage	Launch			

ew F <u>a</u> vorites <u>I</u> oo	is <u>H</u> eip				
nstruction	al Methods To	ool			
ſ					
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Vari	ables	Clear	Parameterial Matheda and Commerce of Instruction		
Action Verb			Recommended Methods and Sequence of Instruction		
Engage		~	Key Points for Success		
Performance	Level		Facilitator Considerations		
P4 - Articulation			Practical Exercise Considerations		
Definition			Practical exercises:		
To enter into contest or battle, to fight.			Should be demonstrated to the Soldiers to provide examples of how two or more		
Group Size			<ul> <li>tasks are combined as part of a system.</li> <li>Could be provided to the Soldiers as completion tasks or backwards fading of complete examples of how two or more tasks are performed together.</li> <li>Could require Soldiers to perform tasks as part of crews/teams and explain how their individual tasks support crew/team performance.</li> <li>Follow the completion of each PE with discussions with the large group to answer Soldier questions, obtain different perspectives across the small groups, and summarize the tasks.</li> <li>Assessments <ul> <li>Soldiers should be tested on the full integration of the two or more tasks and be</li> </ul> </li> </ul>		
O 1:16 or less	l)				
1:17 or great	ater				
Experience					
O New to task	¢				
	ledge, no fundamentals.				
Familiar wit Preliminary ta:	th task <i>sk knowledge, understa</i> i	nds fundamentals.			
O Proficient w			<ul> <li>provided with feedback by the Facilitators.</li> <li>Assessments could include asking Soldiers to perform multiple tasks in varied and</li> </ul>		
Definitive task	knowledge, executes th	e fundamentals.	novel conditions (e.g., performing tasks in novel terrain, weather). • Assessments could focus on how Soldiers visualize or perform individual tasks		
Otherstein			within larger systems, teams, etc.		
	bs at the san	ne Physical			
Level			Demonstration Considerations		
Assault Attack	Destroy Develop	Integrate Land	Other Considerations		
Breach	Disengage	Launch	Demonstration of a Team/System Example		
Coordinate	Engage	Modify			

		ts/imt/Tname=Engage&type=1&v	/aluee48:gr - C S Instructional Methods Tool ×
<u>Edit View Favorites Iools Help</u> P4 - Articulation			Practical Exercise Considerations
Definition			Demonstration Considerations
To enter into contest or battle, to fight.  Group Size  1:16 or less  1:17 or greater  Experience  New to task No task knowledge, no fundamentals.			The demonstration method of instruction helps people who learn well by modeling others. It provides an opportunity for targeted questions while drawing attention to specific details. Used to:   Train manipulative and operative skills  Develop understandings  Teach new practices  Gain acceptance of new and improved ways of doing things
No task knowledge, no fundamentals.  (a) Familiar with task			Key points for success:
Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Physical Level		e fundamentals.	<ul> <li>The Facilitator must rehearse prior to presenting the demonstration.</li> <li>All necessary training resources must be present and functional.</li> <li>The demonstration must be rehearsed with Als (the demonstrator and Facilitator must stay in sync or Soldiers will have a tendency to become lost or lose interest).</li> <li>The Facilitator must ensure that Soliders have mastered the prior knowledge needed for the demonstration.</li> <li>Soldiers must be able to clearly observe the demonstration and hear what the Facilitator is saying.</li> </ul>
Assault Attack Breach	Destroy Develop Disengage	Integrate Land Launch	The result of skipped steps or steps performed incorrectly must be explained.     Soldiers must be shown the responses they control and the cues to which they should react.     Techniques include:
Coordinate Defend	Engage Infiltrate	Modify	<ul> <li>Soldiers watch but do not participate.</li> <li>Soldiers observe the demonstration and then execute each step after being demonstrated by the Facilitator.</li> <li>Soldiers perform steps during the demonstration. In this case, the Facilitator should: <ul> <li>Ensure that all Soldiers have properly completed the step before starting the next step.</li> <li>Provide sufficient Als to roam the classroom, assist Soldiers having difficulty, and ensure all Soldiers are performing each step properly</li> </ul> </li> </ul>
			Other Considerations 🗸
			Demonstration of a Team/System Example

<u>V</u> iew F <u>a</u> vorites Iools <u>H</u> elp	
Instructional Methods Tool	
Home About Tool Physical Verbs	s Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Le
Task Variables	
Action Verb	Recommended Methods and Sequence of Instruction
Engage	Key Points for Success
Performance Level	Facilitator Considerations
P4 - Articulation	Practical Exercise Considerations
Definition	
To enter into contest or battle, to fight.	Demonstration Considerations
Group Size	Other Considerations V
○ 1:16 or less	<ul> <li>Rehearsals, practice, assessments, and feedback could focus on the integration</li> </ul>
1:17 or greater	of these skills in a larger context. • Simulators such as CCTT, VBS3 could be employed to rehearse and practice
Experience	crew/team collective performance prior to live exercises.
New to task	<ul> <li>With longer classes, highly proficient Soldiers could design products; repair live equipment; perform on-the-job training; shadow Facilitators; demonstrate tasks to</li> </ul>
No task knowledge, no fundamentals.	different audiences; and prepare explanations, briefings, papers to unit leaders, stakeholders, etc.
Familiar with task Preliminary task knowledge, understands fundamentals.	asserves normality of network
O Proficient with task	Demonstration of a Team/System Example
Definitive task knowledge, executes the fundamentals.	Team/System Practical Exercise Example
Other Verbs at the same Physical	
Level	Backwards Fading Example
	Team/System PE with Increasing Complexity Example

~

Engage Infiltrate

Modify

Coordinate

Defend

iew F <u>a</u> vorites <u>T</u> oo	ols <u>H</u> elp		
Group Size			
0 1:16 or less			Demonstration of a Team/System Example
1:17 or greater			Task Number: 071-FRBLC023
Experience			Task Title: Field Fire 1 Engage Stationary Targets with the M110 (SASS)
New to task			A Sniper Team (Shooter and Spotter) will engage targets at unknown distances on an
	ledge, no fundamentals.		unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's
Familiar wit Preliminary tas	in task <i>sk knowledge, understa</i>	nds fundamentals.	databook for future engagements by:
O Proficient w	and the second		Accurately recording cold barrel and confirmation shot placement, and elevation and
Definitive task	knowledge, executes th	e fundamentals.	<ul> <li>windage adjustments and holds.</li> <li>Properly identifying targets.</li> </ul>
			<ul> <li>Accurately determining range to targets.</li> </ul>
Other Ver	bs at the sar	ne Physical	<ul> <li>Accurately utilizing the ABC.</li> </ul>
Level			Prior to the demonstration the Facilitator should accomplish the following:
			<ul> <li>Arrange the area so all Soldiers can see and hear the demonstration.</li> <li>Situate the small group near/around the demonstrator(s)</li> </ul>
Assault	Destroy	Integrate	<ul> <li>If there is a large group, arrange the Soldiers around multiple assistants who</li> </ul>
Attack Breach	Develop Disengage	Land Launch	mimic the actions of the Facilitator,
Coordinate	Engage	Modify	During the demonstration
Defend	Infiltrate		<ul> <li>Facilitators can provide demonstrations on how individual tasks (identifying targets,</li> </ul>
			determining range, utilizing the ABC, etc.) are integrated and performed as part of collective tasks (shot process).
			The shot process can be demonstrated at normal speed
			The Shooter
			measures the the measurements The Spotter
			selects a target scope reticle and scope reticle and safety and states the selects at the select
			relays the results to the Spotter (ABC)
			The Spotter relays The Spotter makes
			the distance and The Shooter dials determines wind amouncing how
			MOA) back to rifle croppe creed through far right or left of
			the Shooter his speed alrough target the point of aim should be

	ics to northropgrumman.com/projec	ts/imt/Tname=Engage&type=1&	avalues46kgr 👻 C 🦉 Instructional Methods Tool 🛛 ×	<b>↑</b> ★ 3
No ta Farr Prelii Prol Defin	ites <u>loots H</u> elp sk knowledge, no fundamentals. niliar with task ninary task knowledge, understa ficient with task itive task knowledge, executes th r Verbs at the sar	he fundamentals.	<ul> <li>A Shiper Team (Shooter and Spotter) will engage targets at unknown distances on an unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by: <ul> <li>Accurately recording cold barrel and confirmation shot placement, and elevation and windage adjustments and holds.</li> <li>Properly identifying targets.</li> <li>Accurately determining range to targets.</li> <li>Accurately utilizing the ABC.</li> </ul> </li> </ul>	
Leve	1		Prior to the demonstration the Facilitator should accomplish the following:	
Assault Attack Breach Coordinate Defend	Destroy Develop Disengage ate Engage Infiltrate	Integrate Land Launch Modify	<ul> <li>Arrange the area so all Soldiers can see and hear the demonstration.</li> <li>Situate the small group near/around the demonstrator(s)</li> <li>If there is a large group, arrange the Soldiers around multiple assistants who mimic the actions of the Facilitator.</li> <li>During the demonstration</li> <li>Facilitators can provide demonstrations on how individual tasks (identifying targets, determining range, utilizing the ABC, etc.) are integrated and performed as part of</li> </ul>	
			collective tasks (shot process).  • The shot process can be demonstrated at normal speed	
			The Sniper Team selects a target with the rifle scope reticle and relays the results to the Spotter (ABC) The Spotter inputs the measurements into the Advanced Ballistic Calculator (ABC)	
			The Spotter relays the distance and minutes of angle (MOA) back to the Shooter dials the MOA on the rifle scope The Spotter dials speed through his spotting scope The Spotter makes a "wind" call by announcing how far right or left of target the point of aim should be	
			The Shooter aims where the Spotter tells him and fires The Spotter ound the round the team moves to the next target If the target is hit, the team moves to the next target If the target is missed, the team makes corrections and re-engages	
			Team/System Practical Exercise Example	

- 0 -X

#### - 0 X ← 5 🗿 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&values4&gr 👻 🖸 Instructional Methods Tool 合 ★ 章 File Edit View Favorites Tools Help 1:17 or greater Team/System Practical Exercise Example Experience During the PE, the Facilitator should New to task · Provide exercises that require Soldiers to perform tasks as part of crews/teams and No task knowledge, no fundamentals. explain how their individual tasks support crew/team performance. Familiar with task · Ask the Soldiers to explain why they are performing certain errors, why they are Preliminary task knowledge, understands fundamentals. performing certain steps, how they might troubleshoot faults, etc. Proficient with task · Increase the complexity of questions, the rate at which questions are asked, etc. to induce realism of performing these tasks in high-stakes dynamic situations. Definitive task knowledge, executes the fundamentals. · Continue to assess Soldiers to ensure they can perform the individual tasks (including sub-tasks and sub-goals) at an autonomous level. Other Verbs at the same Physical · Provide focused feedback on how the Soldiers are performing multiple tasks together. Level · Repeat the exercise and add a time standard to increase rigor. The Facilitator confirms correct range to the target. -Assault Destroy Integrate If in error, talks about the range estimation process and asks the Spotter questions Attack Develop Land Breach Disengage Launch The Shooter The Spotter inputs Coordinate Engage Modify measures the the measurements The Spotter The Facilitator target with the rifle Defend Infiltrate into the Advanced approximates the announces the scope reticle and **Ballistic Calculator** range to the target target to engage relays the results (ABC) to the Spotter The Spotter makes The Spotter relays The Spotter a "wind" call by the distance and The Shooter dials determines wind announcing how the MOA on the minutes of angle direction and far right or left of (MOA) back to rifle scope speed through target the point of the Shooter his spotting scope aim should be If the target is hit, the team moves to the next target The Shooter The Spotter selected by the Facilitator watches the flight aims where the Spotter tells him and impact of the If the target is missed, the and fires round Facilitator stops the exercise and discusses what happened The Facilitator provides The Facilitator confirms the feedback on the Shooter's wind call. If in error, talks to the marksmanship fundamentals Spotter about reading wind

View Fgvorites	Iools Help		
( Familiar with ta			Team/System PE with Increasing Complexity Example
Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals Other Verbs at the same Physical Level			Task Number: 071-FRBLC025
			Task Title: Field Fire 2 Engage Moving Targets with the M110 (SASS)
			A Sniper Team (Shooter and Spotter) will engage moving targets at unknown distances on an unknown distance range
			with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by:
Assault Attack Breach Coordinate Defend	Destroy Develop Disengage Engage Infiltrate	Integrate Land Launch Modify	Property identifying targets     Accurately determining range to targets     Accurately utilizing the ABC to determine time of flight of the round     Accurately determining the Angle of the target's movement     Accurately determining the speed of the target     Accurately determining the speed of the target     Accurately determining the appropriate engagement technique:     Trapping     Tracking
			The Sniper Team selects a target with the rifie scope reticle and relays the results to the Spotter (ABC)
			The Spotter relays the distance and minutes of angle (MOA) back to the Shooter dials (MOA) back to the Shooter dials the MOA on the rifle scope dials and angle of movement of the target dials to the Shooter dials the MOA on the rifle scope dials
			The Spotter determines wind direction and speed through his spotting scope
			The Spotter watches the flight and impact of the

# Appendix M

Military Task Examples P4 - Articulation / Small Group / Proficient with Task

ew F <u>a</u> vorites <u>I</u> oo	ls <u>H</u> elp						
١	Home About T	ool Physical Verbs	Cognitive Verbs	Affective Domain Methods of Instruction Crosswalk Admin			
Task Vari	ables	Clear	Recommen	ided Methods and Sequence of Instruction			
Action Verb							
Engage		~	Choose the n	nethod of instruction based on the "Time of Instruction" for the ELO.			
Performance	Level		Time of Instruction	Method of Instruction			
P4 - Articulation	Lever		4-8 hours	Less proficient Soldiers			
				Demonstration then multiple practice sessions using training aids or actual equipment			
Definition To enter into contest or battle, to fight.				More proficient Soldiers			
			Multiple Days	Perform PEs that reflect tasks they would perform on the job. s • Less proficient Soldiers Cycle of demonstrations and practice			
Group Size				opportunities, probing questions, and feedback; more rigorous proficiency tests could be implemented			
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>				More proficient Soldiers Test proficiency and then have them assi			
Experience				in preparing lessons, teaching, and researching for longer assignments			
New to task	t.						
No task knowl	ledge, no fundamentals.		Contraction of the				
Familiar wit	h task <i>sk knowledge, understa</i> i	a da fa a da ana anta la	Key Points	Key Points for Success        Facilitator Considerations        Practical Exercise Considerations			
<ul> <li>Proficient w</li> </ul>		ius runuamentais.	Facilitator 0				
$\smile$	knowledge, executes th	he fundamentals.	Practical Ex				
Other Ver	bs at the sar	ne Physical	Demonstrat	tion Considerations 🗸 🗸			
Level			Other Cons	iderations 🗸			
Assault	Destroy	Integrate	Demonstrat	tion of a Team/System Example 💦 🗸 🗸			
Attack Breach	Develop Disengage	Land Launch	Team/Syste	em Practical Exercise Example			
Coordinate Defend	Engage Infiltrate	Modify	Backwards	Fading Example			
				em PE with Increasing Complexity Example			

Instructional Methods Tool	
Home About Tool Phys	cal Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Task Variables	Clear Recommended Methods and Sequence of Instruction
Action Verb	
Engage	Key Points for Success
Performance Level	Soldiers should practice performing two or more tasks together as part of a
P4 - Articulation	<ul> <li>system.</li> <li>Soldiers should be provided PEs across multiple contexts for varied practice.</li> </ul>
Definition	<ul> <li>Soldiers should learn the deep structural aspects of the procedures even if the surface-level conditions change.</li> </ul>
To enter into contest or battle, to fight.	Exercises should require Soldiers to integrate individual tasks into a larger system or
	<ul><li>during collective task performance.</li><li>More proficient Soldiers could coach and mentor less-experienced Soldiers.</li></ul>
Group Size 1:16 or less	<ul> <li>Facilitators should provide feedback.</li> </ul>
1:17 or greater	
Experience	Facilitator Considerations V
New to task	Practical Exercise Considerations
No task knowledge, no fundamentals.	Demonstration Considerations
Familiar with task Preliminary task knowledge, understands fundament	
<ul> <li>Preliminary task knowledge, understands rundament.</li> <li>Proficient with task</li> </ul>	Other Considerations
Definitive task knowledge, executes the fundamental	Demonstration of a Team/System Example
Other Verbs at the same Phys	Team/System Practical Exercise Example
Level	Backwards Fading Example
Level	

M-3

~

Coordinate

Defend

Engage

Infiltrate

Modify

٦	Home About T				
	Home Product	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	ables	Clear	Programmen ded Matheda and Company of Instruction		
Action Verb			Recommended Methods and Sequence of Instruction		
Engage		~	Key Points for Success		
Performance	Level	<b></b> //	Facilitator Considerations		
P4 - Articulation			Facilitators should:		
Definition			Provide demonstrations of how individual tasks are integrated into larger systems		
To enter into conte	est or battle, to fight.		and performed as part of collective tasks. Ask the Soldiers to explain why they are performing certain errors, why they are		
Group Size			<ul> <li>performing certain steps, how they might troubleshoot faults.</li> <li>Ask Soldiers to explain how their tasks are integrated with crew/team-based performance or in larger systems.</li> <li>Provide additional procedural information or demonstrations of more advanced techniques prior to more complex PEs.</li> <li>Increase the complexity of their questions, the rate at which they ask questions, etc. to induce realism of performing these tasks in high stakes dynamic situations.</li> <li>Continue to assess Soldiers to ensure that they perform the individual tasks (including sub-tasks and sub-goals) at an autonomous level.</li> <li>Continue to provide feedback on how the Soldiers are performing multiple tasks</li> </ul>		
<ul> <li>1:16 or less</li> </ul>					
1:17 or grea	ter				
Experience					
O New to task					
	edge, no fundamentals.				
<ul> <li>Familiar with <i>Preliminary tas</i> </li> </ul>	n task ik knowledge, understai	nds fundamentals.	together.		
Proficient w Definitive task	ith task <i>knowledge, executes ti</i>	e fundamentals.	Practical Exercise Considerations		
Othor Vor	os at the san	o Physical	Demonstration Considerations		
	us at the sai	le Physical	Other Considerations		
Level					
Assault	Destroy	Integrate	Demonstration of a Team/System Example		
Attack Breach	Develop Disengage	Land Launch	Team/System Practical Exercise Example		
Coordinate	Engage	Modify	Backwards Fading Example		
Defend	Infiltrate				

ew F <u>a</u> vorites <u>I</u> oo	ls <u>H</u> elp				
nstruction	al Methods To	ool			
	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Vari	ables	Clear			
Action Verb			Recommended Methods and Sequence of Instruction		
Engage		~	Key Points for Success		
Performance	Level		Facilitator Considerations       ✓         Practical Exercise Considerations       ✓         Practical Exercises:       🗲		
P4 - Articulation					
Definition					
To enter into cont	est or battle, to fight.		Should be demonstrated to the Soldiers to provide examples of how two or more		
Group Size			tasks are combined as part of a system. • Could be provided to the Soldiers as completion tasks or backwards fading of		
1:16 or less			<ul> <li>complete examples of how two or more tasks are performed together.</li> <li>Could require Soldiers to perform tasks as part of crews/teams and explain how their individual tasks support crew/team performance.</li> </ul>		
1:17 or great	iter				
Experience			Assessments		
O New to task			<ul> <li>Soldiers should be tested on the full integration of the two or more tasks and be arrested with final builts.</li> </ul>		
Familiar wit	<i>ledge, no fundamentals.</i> h task		provided with feedback by the Facilitators. <ul> <li>Assessments could include asking Soldiers to perform multiple tasks in varied and</li> </ul>		
<b>—</b>	sk knowledge, understa	nds fundamentals.	novel conditions (e.g., performing tasks in novel terrain, weather). • Assessments could focus on how Soldiers visualize or perform individual tasks		
Proficient w		. for the second de	within larger systems, teams, etc.		
Dennitive task	knowledge, executes ti	e rundamentais.			
Other Ver	bs at the sar	ne Physical	Demonstration Considerations		
Level			Other Considerations		
Assault	Destroy	Integrate	Demonstration of a Team/System Example		
Attack	Develop	Land	Team/System Practical Exercise Example		
Breach Disengage Launch Coordinate Engage Modify					

#### -🧑 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&gr 👻 🕻 Instructional Methods Tool ft 🛧 🔅 File Edit View Favorites Tools Help P4 - Articulation **Practical Exercise Considerations** Definition **Demonstration Considerations** To enter into contest or battle, to fight. The demonstration method of instruction helps people who learn well by modeling -Group Size others. It provides an opportunity for targeted questions while drawing attention to specific details. 1:16 or less Used to: 1:17 or greater · Train manipulative and operative skills Experience Develop understandings Teach new practices New to task · Gain acceptance of new and improved ways of doing things No task knowledge, no fundamentals. Key points for success: Familiar with task Preliminary task knowledge, understands fundamentals. · The Facilitator must rehearse prior to presenting the demonstration. All necessary training resources must be present and functional. Proficient with task · The demonstration must be rehearsed with Als (the demonstrator and Facilitator Definitive task knowledge, executes the fundamentals. must stay in sync or Soldiers will have a tendency to become lost or lose interest). · The Facilitator must ensure that Soliders have mastered the prior knowledge needed Other Verbs at the same Physical for the demonstration. · Soldiers must be able to clearly observe the demonstration and hear what the Level Facilitator is saying. · The result of skipped steps or steps performed incorrectly must be explained. · Soldiers must be shown the responses they control and the cues to which they Assault Destroy Integrate should react. Attack Develop Land Techniques include: Breach Disengage Launch Modify Coordinate Engage · Soldiers watch but do not participate. · Soldiers observe the demonstration and then execute each step after being Defend Infiltrate demonstrated by the Facilitator. · Soldiers perform steps during the demonstration. In this case, the Facilitator should: . Ensure that all Soldiers have properly completed the step before starting the next step. · Provide sufficient Als to roam the classroom, assist Soldiers having difficulty, and ensure all Soldiers are performing each step properly **Other Considerations** Demonstration of a Team/System Example Team/System Practical Exercise Example

**Backwards Fading Example** 

http://www.lcs.ts.northropgrumman.com/projects/imt/?name=Engage&type=1&valu				
at View Favorites Iools Help	ue=4&gr · · · C S Instructional Methods Tool ×			
Instructional Methods Tool				
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Log In			
Task Variables	Recommended Methods and Sequence of Instruction			
Action Verb	Key Points for Success 🗸			
Engage				
Performance Level	Facilitator Considerations			
P4 - Articulation	Practical Exercise Considerations			
Definition	Demonstration Considerations			
To enter into contest or battle, to fight.	Other Considerations			
Group Size				
1:16 or less	Rehearsals, practice, assessments, and feedback could focus on the integration			
O 1:17 or greater	of these skills in a larger context.  • Simulators such as CCTT, VBS3 could be employed to rehearse and practice			
Experience	<ul> <li>crew/team collective performance prior to live exercises.</li> <li>With longer classes, highly proficient Soldiers could design products; repair live</li> </ul>			
New to task	equipment, perform on-the-job training; shadow Facilitators; demonstrate tasks to different audiences; and prepare explanations, briefings, papers to unit leaders,			
No task knowledge, no fundamentals. Familiar with task Preliminary task knowledge, understands fundamentals.	stakeholders, etc.			
Proficient with task	Demonstration of a Team/System Example			
Definitive task knowledge, executes the fundamentals.	Team/System Practical Exercise Example			
Other Verbs at the same Physical	Backwards Fading Example 🗸 🗸			
Level	Team/System PE with Increasing Complexity Example			
Assault Destroy Integrate Attack Develop Land				

M-7

~

Launch

Modify

Disengage Engage

Infiltrate

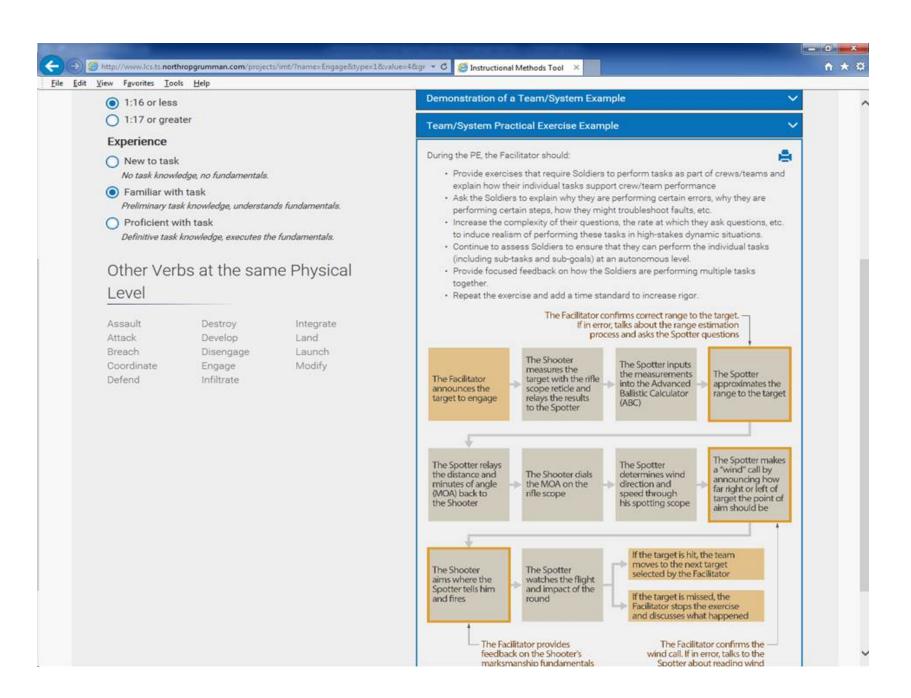
Breach

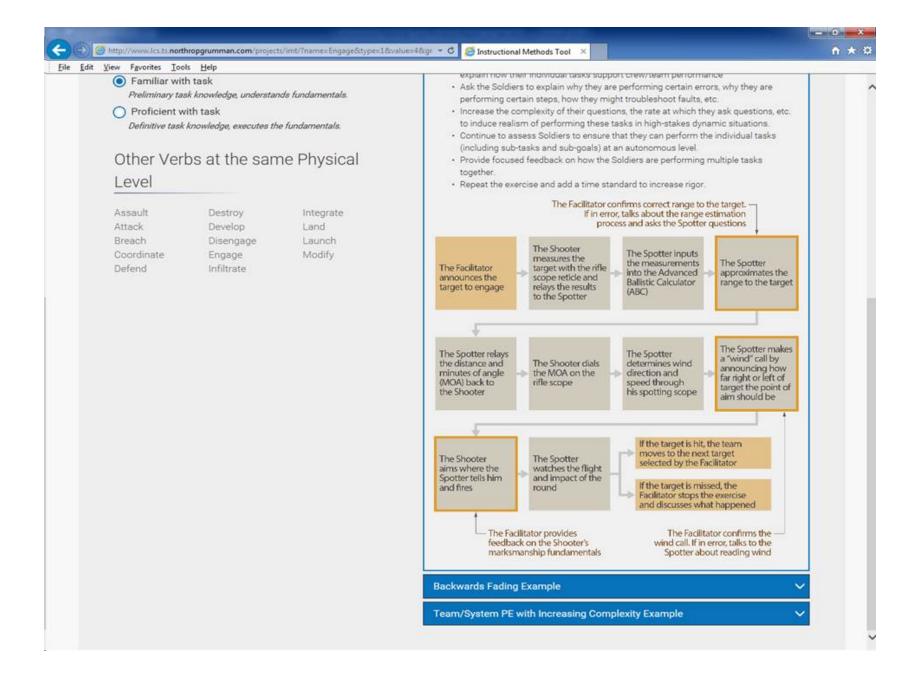
Defend

Coordinate

lit ⊻iew F <u>a</u> vorites <u>I</u> oo (○) 1:16 or less	an a		Demonstration of a Team/System Example	
<ul> <li>1:17 or greater</li> <li>Experience         <ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> </ul> </li> <li>Other Verbs at the same Physical Level</li> </ul>			Task Number: 071-FRBLC023	
			Task Title: Field Fire 1 Engage Stationary Targets with the M110 (SASS)	
			A Sniper Team (Shooter and Spotter) will engage targets at unknown distances on an unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by:	
			<ul> <li>Accurately recording cold barrel and confirmation shot placement, and elevation and windage adjustments and holds.</li> <li>Properly identifying targets.</li> <li>Accurately determining range to targets.</li> <li>Accurately utilizing the ABC.</li> <li>Prior to the demonstration the Facilitator should accomplish the following:</li> </ul>	
			The Sniper Team selects a target The Shooter measures the target with the rifle scope reticle and relays the results to the Spotter (ABC)	
			The Spotter relays the distance and minutes of angle (MOA) back to the Shooter dials iffle scope the MOA on the rifle scope distance and the MOA on the rifle scope distance and the MOA on the rifle scope distance and the Shooter dials the Shooter dials the MOA on the rifle scope distance and the Shooter dials the Shooter dials the MOA on the rifle scope distance and the Shooter dials the Shooter dials the Shooter dials the MOA on the rifle scope distance and the Shooter dials the Shooter dials the Shooter dials the Shooter dials the S	

Edit View F	avorites <u>T</u> ools			/alues4&gr - C 🧭 Instructional Methods Tool X		
Other Verbs at the same Physical Level			ne Physical	Accurately determining range to targets.     Accurately utilizing the ABC.		
				Prior to the demonstration the Facilitator should accomplish the following:		
Assa Atta Brea	ult sk ch dinate	Destroy Develop Disengage Engage Infiltrate	Integrate Land Launch Modify	Arrange the area so all Soldiers can see and hear the demonstration.     Situate the small group near/around the demonstrator(s)     If there is a large group, arrange the Soldiers around multiple assistants who mimic the actions of the Facilitator. During the demonstration     Facilitators can provide demonstrations on how individual tasks (identifying targets, determining range, utilizing the ABC, etc.) are integrated and performed as part of collective tasks (shot process).		
				The shot process can be demonstrated at normal speed The Sniper Team selects a target The Spotter The Spotter The Sniper Team target with the rifle scope reticle and relays the results to the Spotter The S		
				The Spotter relays the distance and minutes of angle (MOA) back to the Shooter the Shooter dials the MOA on the rifle scope the MOA on the rifle scope the Spotter dials the MOA on the rifle scope the Spotter dials speed through his spotting scope the Spotter makes a "wind" call by announcing how far right or left of target the point of aim should be		
				The Shooter aims where the Spotter tells him and fires The Spotter ound The Spotter tells him and impact of the round The Spotter tells him and tells him and the Spotter tells him and tells hi		
				Team/System Practical Exercise Example		
				Backwards Fading Example		
				Team/System PE with Increasing Complexity Example		





#### 🕣) 🥝 http://www.Ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&gr 👻 🖸 Instructional Methods Tool

-

# (a) 1:16 or less

1:17 or greater

#### Experience

File Edit View Favorites Tools Help

New to task No task knowledge, no fundamentals.

Familiar with task Preliminary task knowledge, understands fundamentals.

Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical

# Level

Assault Destroy Attack Develop Breach Disengage Coordinate Engage Defend Infiltrate

Integrate

Land

Launch

Modify

## Demonstration of a Team/System Example

#### Team/System Practical Exercise Example

## **Backwards Fading Example**

Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials.

Used to:

- · Teach tasks to individuals who have no prior knowledge of the task
- · Teach tasks that are cumulative in nature (relationship between steps)
- · Move individuals from worked examples to problem solving

#### Key points for success:

- · Ongoing evaluation of the Soldier's performance is required.
- · The Facilitator determines when to remove instructional support based on the Soldier's performance.

#### Techniques include:

- · Together, the Facilitator and Soldier perform a series of trials (attempts) that the facilitator and Soldier perform together.
- · In early learning trials, both the Soldier and the Facilitator are involved in performing task steps.
- · In later learning trials, more and more of the task steps are performed by the Soldier alone.



#### 🙆 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&gr 👻 🖸 Instructional Methods Tool 合 ★ 泣 File Edit View Favorites Tools Help Soldier's performance. Assault Destroy Integrate Techniques include: Attack Develop Land Breach Disengage Launch · Together, the Facilitator and Soldier perform a series of trials (attempts) that the facilitator and Soldier perform together. Coordinate Engage Modify · In early learning trials, both the Soldier and the Facilitator are involved in performing Defend Infiltrate task steps. . In later learning trials, more and more of the task steps are performed by the Soldier alone. Field Fire I with the M110 BACKWARDS FADING Semi-Automated Sniper System (SASS) TRIALS First the facilitator demonstrates the task STEPS from beginning to end while the Soldiers 0121456 watch. The Sniper Team selects a target Trial 1 - Begins as a guided demonstration. In other words, each Soldier watches and The Shooter measures the target with R mimics the task steps performed by the the rifle scope reticle and relays the 0 facilitator. There are no 'Soldier only' steps results to the Spotter in this trial. 1 The Spotter inputs the measurements A Trial 2 - The facilitator and the Soldiers into the ABC perform the first eight task steps and the 1 The Spotter approximates the range Soldiers perform the last two task steps to the target alone. \_\_\_\_\_ The Spotter relays the distance and Trial 3 - The facilitator and the Soldiers ---minutes of angle (MOA) back to the U perform the first six task steps and the Shooter Soldiers perform the last four task steps A alone. The Shooter dials the MOA on the rifle LL scope Trial 4 - The facilitator and the Soldiers S perform the first four task steps and the The Spotter determines wind R Soldiers perform the last six task steps direction and speed through his alone. spotting scope ш ----Trial 5 - The facilitator and the Soldiers The Spotter makes a "wind call" by perform the first two task steps and the 0 announcing how far right or left of Soldiers perform the last eight task steps target the point of aim should be 1 alone. The Shooter aims where the Spotter 0 Trial 6 - The Soldiers complete the whole tells him and fires S task by themselves. The Spotter watches the flight and In this example the 10 task steps are impact of the round chunked, i.e. 1+2, 3+4, 5+6, 7+8, and 9+10 If the target is hit, the team moves to the next target based on the complexity of the task. If the target is missed, the facilitator stops the exercise and discusses what happened Team/System PE with Increasing Complexity Example

- 0 - X

### 🐑 🧑 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&value=4&gr 👻 🖉 Instructional Methods Tool 🛛 🗙

× 0 - 1

#### Eile Edit View Favorites Tools Help

No task knowledge, no fundamentals.

- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task
   Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Physical Level

Assault	Destroy	Integrate
Attack	Develop	Land
Breach	Disengage	Launch
Coordinate	Engage	Modify
Defend	Infiltrate	

#### Task Number: 071-FRBLC025 Task Title: Field Fire 2 Engage Moving Targets with the M110 (SASS) A Sniper Team (Shooter and Spotter) will engage moving targets at unknown distances on an unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by: · Properly identifying targets · Accurately determining range to targets · Accurately utilizing the ABC to determine time of flight of the round · Accurately compensating for wind effects on the trajectory of the round · Accurately determining the angle of the target's movement · Accurately determining the speed of the target · Accurately applying the appropriate engagement technique: · Trapping · Tracking The Shooter The Spotter inputs measures the the measurements The Spotter The Sniper Team target with the rifle into the Advanced approximates the scope reticle and selects a target **Ballistic Calculator** range to the target relays the results (ABC) to the Spotter The Spotter The Shooter The Spotter relays determines the the distance and The Shooter dials determines the amount of lead minutes of angle (MOA) back to the MOA on the speed and angle for the moving rifle scope of movement of the Shooter

Team/System PE with Increasing Complexity Example



to the next target

The Spotter

it <u>V</u> iew F <u>a</u> vorites <u>I</u> oo		no Physical	an unknown distance range with a sniper weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's
Other Verbs at the same Physical Level			databook for future engagements by:
Assault Attack Breach Coordinate Defend	Destroy Develop Disengage Engage Infiltrate	Integrate Land Launch Modify	<ul> <li>Properly identifying targets</li> <li>Accurately determining range to targets</li> <li>Accurately utilizing the ABC to determine time of flight of the round</li> <li>Accurately compensating for wind effects on the trajectory of the round</li> <li>Accurately determining the angle of the target's movement</li> <li>Accurately determining the speed of the target</li> <li>Accurately applying the appropriate engagement technique:         <ul> <li>Trapping</li> <li>Tracking</li> </ul> </li> </ul>
			The Sniper Team selects a target The Shooter measures the target with the rifle scope reticle and relays the results to the Spotter (ABC) The Spotter linputs the measurements into the Advanced Ballistic Calculator (ABC)
			The Spotter relays the distance and minutes of angle (MOA) back to the Shooter and angle (MOA) back to the Shooter the Shooter the Shooter dials if le scope the Shooter dials if le scope the Shooter the Shooter the Shooter dials if le scope the Shooter the Shooter
			The Spotter determines wind direction and speed through his spotting scope
			The Spotter watches the flight and impact of the round If the target is hit, the team moves to the next target If the target is missed, the team makes corrections and re-engages

# Appendix N

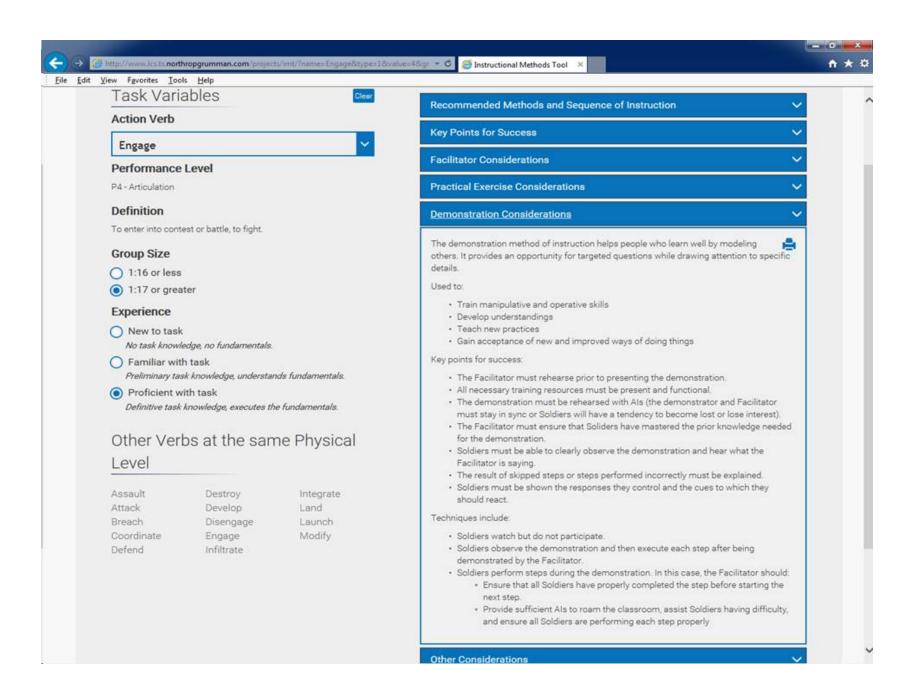
Military Task Examples P4-Articulation / Large Group / Proficient with Task

	ls <u>H</u> elp						
nstructiona	al Methods To	ool					
1	Home About T	ool Physical Verbs	Cognitive Verbs Af	fective Domain	Methods of Instruction Crosswalk	Admin	
Task Varia	ables	Clear		design of the second second		2	
Action Verb			Recommended	methods and Seq	uence of Instruction	~	
Engage		~	Direct Instruction a	and Experiential Lear	ning		
Performance Level P4 - Articulation Definition To enter into contest or battle, to fight.					d on the "Time of Instruction" for the ELO.		
			Time of Me Instruction	thod of Instruction			
			4-8 hours		Soldiers Demonstration then multiple practi	ce	
			<ul> <li>sessions using training aids or actual equipment.</li> <li>More proficient Soldiers Perform PEs that reflect tasks they would perform on the job.</li> </ul>				
Group Size 1:16 or less 1:17 or greater			Multiple Days	Less proficient	Soldiers Cycle of demonstrations and practi	ce	
				opportunities, probing questions, and feedback; more rigorous proficiency tests could be implemented.			
			<ul> <li>More proficient Soldiers Test proficiency and then have them assist in preparing lessons, teaching, and researching for longer</li> </ul>				
Experience				assignments.	ons, reaching, and researching for longer		
New to task	edge, no fundamentals.						
Familiar wit	h task sk knowledge, understa	nds fundamentals.	Key Points for S	uccess		×	
O Proficient w	ith task <i>knowledge, executes tl</i>	he fundamentals.	Facilitator Considerations          Practical Exercise Considerations          Demonstration Considerations				
						~	
	bs at the sar	ne Physical				~	
Level			Other Considera	tions			
Assault	Destroy	Integrate				~	
Attack Breach	Develop Disengage	Land Launch	Demonstration of	of a Team/System	) Example	~	
Coordinate	Engage	Modify	Team/System P	ractical Exercise	Example	~	
Defend	Infiltrate		Backwards Fadir	na Evamala			

Instruction	nstructional Methods Tool							
[	Home About 1	fool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admir					
Task Vari	ables	Clear						
Action Verb			Recommended Methods and Sequence of Instruction					
Engage		~	Key Points for Success					
Performance	e Level		Resources (training aids, actual equipment, etc.) and additional Facilitators are					
P4 - Articulation	Level		<ul> <li>required to achieve the desired level of proficiency with a large group of Soldiers (200+).</li> <li>If resources permit, break large groups into small groups for the PEs.</li> <li>Soldiers should practice performing two or more tasks together as part of a system.</li> <li>Soldiers should be provided PEs across multiple contexts for varied practice.</li> <li>Soldiers should learn the deep structural aspects of the procedures even if the surface-level conditions change.</li> <li>Exercises should require Soldiers to integrate individual tasks into a larger system or during collective task performance.</li> </ul>					
Definition								
	test or battle, to fight.							
Group Size								
1:16 or less	1							
1:17 or greater			<ul> <li>More proficient Soldiers could coach and mentor less-experienced Soldiers.</li> <li>Facilitators should provide feedback.</li> </ul>					
Experience								
New to task	k ledge, no fundamentals.		Facilitator Considerations					
O Familiar wit			Practical Exercise Considerations					
Preliminary ta     O     Proficient v	<i>sk knowledge, understa</i> vith task	nds fundamentals.	Demonstration Considerations					
Definitive task	k knowledge, executes ti	he fundamentals.	Other Considerations					
Other Ver	bs at the sar	ne Physical	Demonstration of a Team/System Example					
Level			Team/System Practical Exercise Example					
Assault	Destroy	Integrate	Backwards Fading Example					
Attack Breach	Develop Disengage	Land Launch						

nstructiona	al Methods To	ool			
]	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admi		
Task Vari	ables	Clear			
Action Verb	ubico		Recommended Methods and Sequence of Instruction		
Engage		~	Key Points for Success		
Performance	Level	h	Facilitator Considerations		
P4 - Articulation	Level		Facilitators should:		
Definition			<ul> <li>Provide demonstrations of how individual tasks are integrated into larger systems</li> </ul>		
	test or battle, to fight.		<ul> <li>and performed as part of collective tasks.</li> <li>Ask the Soldiers to explain why they are performing certain errors, why they are performing certain steps, how they might troubleshoot faults.</li> <li>Ask Soldiers to explain how their tasks are integrated with crew/team-based performance or in larger systems.</li> </ul>		
Group Size					
1:16 or less					
1:17 or great	ster		<ul> <li>Provide additional procedural information or demonstrations of more advanced techniques prior to more complex PEs.</li> </ul>		
Experience			<ul> <li>Increase the complexity of their questions, the rate at which they ask questions, etc. to induce realism of performing these tasks in high stakes dynamic situations.</li> </ul>		
O New to task			<ul> <li>Continue to assess Soldiers to ensure that they perform the individual tasks (including sub-tasks and sub-goals) at an autonomous level.</li> </ul>		
O Familiar wit	<i>ledge, no fundamentals.</i> th task <i>sk knowledge, understa</i> i	nds fundamentals.	<ul> <li>Continue to provide feedback on how the Soldiers are performing multiple tasks together.</li> </ul>		
Proficient w     Definitive task	vith task <i>knowledge, executes th</i>	he fundamentals.	Practical Exercise Considerations		
Othor Vor	bs at the san	no Physical	Demonstration Considerations		
Level	us at the sam	ne Friysicai	Other Considerations		
10000000000000000000000000000000000000			Demonstration of a Team/System Example		
Assault Attack	Destroy Develop	Integrate Land	Team/System Practical Exercise Example		
	Disengage	Launch			

ew F <u>a</u> vorites <u>T</u> oo	an e dikadar				
nstructiona	al Methods T	ool			
1	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admir		
TeelsVeri	ablaa				
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction		
Action Verb			Key Points for Success		
Engage		<b>`</b>	Facilitator Considerations		
Performance P4 - Articulation	Level		Practical Exercise Considerations		
Definition					
	est or battle, to fight.		Practical exercises:		
<ul> <li>Familiar with Preliminary task Proficient w Definitive task Other Ver</li> </ul>	ater c ledge, no fundamentals. ih task sk knowledge, understa	he fundamentals.	<ul> <li>Should be demonstrated to the Soldiers to provide examples of how two or more tasks are combined as part of a system.</li> <li>Could be provided to the Soldiers as completion tasks or backwards fading of complete examples of how two or more tasks are performed together.</li> <li>Could require Soldiers to perform tasks as part of crews/teams and explain how their individual tasks support crew/team performance.</li> <li>Follow the completion of each PE with discussions with the large group to answer Soldier questions, obtain different perspectives across the small groups, and summarize the tasks.</li> <li>Assessments</li> <li>Soldiers should be tested on the full integration of the two or more tasks and be provided with feedback by the Facilitators.</li> <li>Assessments could include asking Soldiers to perform multiple tasks in varied and novel conditions (e.g., performing tasks in novel terrain, weather).</li> <li>Assessments could focus on how Soldiers visualize or perform individual tasks within larger systems, teams, etc.</li> </ul>		
Level			Demonstration Considerations		
Assault	Destroy	Integrate	Other Considerations		
Attack Breach	Develop Disengage	Land Launch	Demonstration of a Team/System Example		
Coordinate	Engage	Modify			



Instructional Methods Tool				
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Le			
Task Variables	Recommended Methods and Sequence of Instruction			
Action Verb				
Engage	Key Points for Success			
Performance Level	Facilitator Considerations			
P4 - Articulation	Practical Exercise Considerations			
Definition	Demonstration Considerations			
To enter into contest or battle, to fight.				
Group Size	Other Considerations V			
0 1:16 or less	Rehearsals, practice, assessments, and feedback could focus on the integration			
1:17 or greater	of these skills in a larger context. <ul> <li>Simulators such as CCTT, VBS3 could be employed to rehearse and practice</li> </ul>			
Experience	crew/team collective performance prior to live exercises.  With longer classes, highly proficient Soldiers could design products; repair live			
O New to task	equipment; perform on-the-job training; shadow Facilitators; demonstrate tasks to			
No task knowledge, no fundamentals.	different audiences; and prepare explanations, briefings, papers to unit leaders, stakeholders, etc.			
Preliminary task knowledge, understands fundamentals.				
Proficient with task	Demonstration of a Team/System Example			
Definitive task knowledge, executes the fundamentals.	Team/System Practical Exercise Example			
Other Verbs at the same Physical	Backwards Fading Example			
Level				

~

Launch

Modify

Disengage

Engage

Infiltrate

Breach

Defend

Coordinate

#### 🔶 🕘 🖉 http://www.lcs.ts.northropgrumman.com/projects/init/Tname=Engage&type=1&values4&gr 🍝 🗸 🧔 Instructional Methods Tool 🛛 🗴

+ × ¤

#### <u>File Edit View Favorites Tools Help</u>

#### Group Size

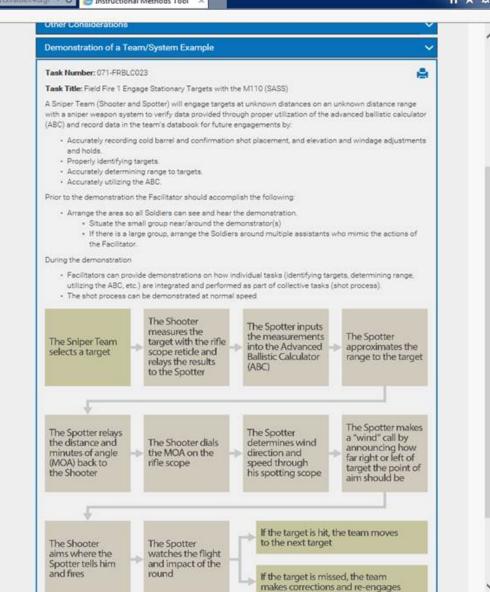
- 1:16 or less
- 1:17 or greater

#### Experience

- New to task
   No task knowledge, no fundamentals.
- Familiar with task
   Preliminary task knowledge, understands fundamentals.
- Proficient with task
- Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Physical Level

Assault	Destroy	Integrate
Attack	Develop	Land
Breach	Disengage	Launch
Coordinate	Engage	Modify
Defend	Infiltrate	



#### http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Engage&type=1&values4&gr 👻 🖸 Instructional Methods Tool 合 ★ 章 File Edit View Favorites Tools Help 1:17 or greater Team/System Practical Exercise Example Experience During the PE, the Facilitator should: ÷. New to task · Provide exercises that require Soldiers to perform tasks as part of crews/teams and explain how their No task knowledge, no fundamentals. individual tasks support crew/team performance. () Familiar with task · Ask the Soldiers to explain why they are performing certain errors, why they are performing certain steps, Preliminary task knowledge, understands fundamentals. how they might troubleshoot faults, etc. Proficient with task · Increase the complexity of questions, the rate at which questions are asked, etc. to induce realism of performing these tasks in high-stakes dynamic situations. Definitive task knowledge, executes the fundamentals. · Continue to assess Soldiers to ensure they can perform the individual tasks (including sub-tasks and subgoals) at an autonomous level. Other Verbs at the same Physical Level · Provide focused feedback on how the Soldiers are performing multiple tasks together. · Repeat the exercise and add a time standard to increase rigor. Assault Destroy Integrate The Facilitator confirms correct range to the target. -Attack Develop Land If in error, talks about the range estimation Breach Disengage Launch process and asks the Spotter questions Modify Coordinate Engage Defend Infiltrate The Shooter The Spotter inputs measures the the measurements The Spotter The Facilitator target with the rifle into the Advanced approximates the announces the scope reticle and **Ballistic Calculator** range to the target relays the results target to engage (ABC) to the Spotter The Spotter makes The Spotter relays The Spotter a "wind" call by the distance and The Shooter dials determines wind announcing how minutes of angle the MOA on the direction and far right or left of (MOA) back to rifle scope speed through target the point of the Shooter his spotting scope aim should be If the target is hit, the team moves to the next target The Shooter The Spotter selected by the Facilitator aims where the watches the flight Spotter tells him and impact of the If the target is missed, the and fires round Facilitator stops the exercise and discusses what happened The Facilitator provides The Facilitator confirms the feedback on the Shooter's wind call. If in error, talks to the marksmanship fundamentals Spotter about reading wind **Backwards Fading Example**

- 0 X

ratanda fundamentala.		
		Task Number: 071-FR8L0025
		Task Number: 071-FR8LC025 Task Title: Field Fire 2 Engage Moving Targets with the M110 (SASS)
es the fundamentals.		A Shiper Team (Shooter and Spotter) will engage moving targets at unknown distances on an unknown distance range with a shiper
ame Physica	I Level	weapon system to verify data provided through proper utilization of the advanced ballistic calculator (ABC) and record data in the team's databook for future engagements by:
velop iengage gage	Integrate Land Launch Modify	Property identifying targets     Accurately determining range to targets     Accurately utilizing the ABC to determine time of flight of the round     Accurately utilizing the ABC to determine time of flight of the round     Accurately determining the angle of the target's movement     Accurately determining the appeal of the target     Accurately determining the appropriate engagement technique:     Trapping     Tracking
		The Sniper Team selects a target with the rifle sope reticle and relays the results to the Spotter (ABC)
		The Spotter relays the distance and minutes of angle (MOA) back to the Shooter
		*
		The Spotter determines wind direction and speed through his spotting scope
		The Spotter watches the flight
		same Physical Level

# Appendix O

Military Task Examples C1-Remembering / Small Group / New to Task and Familiar with Task

Home About Tool Phys Task Variables Action Verb	cal Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
	Clear
Action Verb	
	Recommended Methods and Sequence of Instruction
Locate	Direct instruction begins with a lecture and presentation of information with     guided notes and practical exercises for Soldiers new to task,
Performance Level	<ul> <li>Soldiers familiar with the task should first demonstrate proficiency and then become peer-to-peer coaches.</li> </ul>
C1 - Remembering	Choose the method of instruction based on the "Time of Instruction" for the ELO.
Definition	Time of Method of Instruction
To seek out and determine or set the place, site, position	or limits 1 hour Lecture and presentation with Guided Notes
of.	2 hours Practical exercises. Soldiers who are familiar with the task could assist
Group Size	after presentation and check on learning. 4-8 hours Multiple practice sessions with Facilitator feedback
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>	
Experience	Key Points for Success
New to task	Facilitator Considerations
No task knowledge, no fundamentals.	
Preliminary task knowledge, understands fundamenta	Practical Exercise Considerations
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals</li> </ul>	Guided Notes 🗸
	Advanced Organizers Example
Other Verbs at the same Cogn	tive Backwards Fading Example 🗸 🗸
Level	Contrasting Cases Considerations
Check Identify Reconn	oiter
Define Locate Record Detect Orient Select	Contrasting Cases Example

nstructiona	I Methods To	ool				
ſ	Home About T	ool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk Adr	
Task Varia	ables	Clear				
Action Verb			Recommended	d Methods and Seque	ence of Instruction	
Locate		~	Key Points for	Success		
Performance	evel		0.0000000000000000000000000000000000000	actice opportunities sho	ould be provided.	
C1 - Remembering				feedback is essential. s should develop questio	ons based on the desired level of performance.	
Definition				Use the key words in the table below as guides to structure questions and use task content to complete the question		
	termine or set the plac	e, site, position, or limits		Question Key Words	Military Task: Apply the Military Decision Making Process (MDMP) Task Example Questions/Tasks	
Group Size					What are the 3 types of mission	
1:16 or less					orders?	
1:17 or great	er		C1 - Who, What, When, Where, Name the 5 paragraphs of an Why, How, List, Match, Operation Order,			
Experience			Remembering	Remembering Why, How, List, Match, Name, Recall, Select, etc. Variation Order. • List the 7 steps of the MDMP. • Match the 4 types of military		
New to task No task knowle	dge, no fundamentals.				briefings by definitions.	
O Familiar with			Facilitator	are can use the below each accing techniques to promote learning		
Preliminary task knowledge, understands fundamentals.			Facilitators can use the below sequencing techniques to promote learning			
Proficient wi Definitive task k	th task <i>mowledge, executes th</i>	e fundamentals.	Question Sequencing Techniques to Promote Learning           Extending and lifting – involves asking a number of questions at the same cognitive level, before lifting the level of questions to the next higher level.			
OtherVerk	a at the area		Example		Apply the MDMP Step 2 Mission Analysis	
Level	os at the san	ne Cognitive	Extending		Summarize the higher headquarters     concept of the operation.	
Check	Identify Locate	Reconnoiter Record	C2-Understanding Ask questions or assign tasks at the lower level first 			

#### 🕘 🎯 http://www.ics.ts.northropgrumman.com/projects/imt/Thame=Locate&type=2&value=1&cgrc 🝷 🗸 🧔 Instructional Methods Tool 合 ★ 淳 File Edit View Favorites Iools Help RECORD and implied tasks? Detect Orient Select Lifting Download Recognize Write · Identify and list the specified and implied C3-Applying tasks within the OPORD that pertain to your Then ask or assign a task at the next organization. higher level to lift the Soldier's level of cognitive learning. Narrow to broad - ask lower level specific questions, followed by next higher level general questions Apply the MDMP Step 4 COA Analysis (War Example Game) · What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)? Narrow · What are the main offensive weapons of an C1-Remembering OPFOR MECH Inf (IFV) Co? Ask specific questions at the lower · What enabling assets as assigned to an level first OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)? Broad · Explain how the enemy would deploy a C2-Understanding MECH Inf (IFV) Co as the fixing element Then ask general questions at the during offensive operations. next higher level. Broad to narrow (funneling) - ask low level general questions, followed by next higher level specific questions Apply the MDMP Step 4 COA Analysis (War Example Game) Broad C1-Remembering · What are the five paragraphs of an OPORD? Ask specific questions at the lower level first · Summarize the enemy's composition, disposition, location, strength, and probable courses of action. Narrow · Outline a tentative task organization based C2-Understanding on the attachments and detachments. Then ask specific questions at the · Restate the task to subordinate units next higher level statement into a mission statement using Who, What, When, Where, and Why **Facilitator Considerations Practical Exercise Considerations**

- 0 ×

View Favorites Iools Help Instructional Metho	ods Tool					
Home	About Tool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Log	
Task Variables	Clear	Recommend	ed Methods and Sec	uence of Instruction	~	
Action Verb	·	Key Points fo			~	
Locate	<b>~</b>					
Performance Level		Facilitator Co	nsiderations		~	
C1 - Remembering Definition To seek out and determine or s of. Group Size ① 1:16 or less ① 1:17 or greater	et the place, site, position, or limits	<ul> <li>Provide (</li> <li>Ask inquide (</li> <li>Relate/relation (</li> <li>With a logo</li> <li>Provide (</li> <li>Provide (</li> </ul>	nger timeframe: ovide a cycle of presen jestions that ask Soldie	ns.		
Experience		Practical Exe	rcise Considerations		~	
<ul> <li>New to task</li> </ul>		Guided Notes	l.		~	
No task knowledge, no fund	lamentals.	Advanced On	ganizers Example		~	
Preliminary task knowledge	, understands fundamentals.	Backwards F	ading Example		~	
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, etc.</li> </ul>	executes the fundamentals.	Contrasting 0	ases Consideration	8	~	
Other Verbs at th	ne same Cognitive	Contrasting 0	ases Example		~	
Level						

Define	Locate
Detect	Orient
Download	Recognize

Record Select Write

V

nstruction	al Methods T	ool				
[	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admir			
		Physical verbs	Cognitive verbs Affective Domain Methods of instruction crosswark. Admin			
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction			
Action Verb			Key Points for Success			
Locate		~	Key Foundation Success			
Performance	Level		Facilitator Considerations			
C1 - Rememberin	g		Practical Exercise Considerations			
Definition			A backwards fading PE is where Soldiers are first shown the complete worked			
To seek out and o of.	determine or set the pla	ce, site, position, or limits	example, certain components are then removed, and finally the Soldiers complete the entire task on their own. • Some tasks related to verbs at this level involve recognizing, identifying, locating,			
Group Size			detecting, etc. a target, pattern, etc. (e.g., aircraft, vehicle, patterns of life) and taking			
1:16 or less	3		action or making decisions based on the outcome of those tasks. • For these types of tasks, PEs would first involve defining the conditions under			
1:17 or great	ater		which the task occurs. This includes defining the features of the situation.			
Experience			Then, materials are developed to train and test Soldiers to recognize the features and use that recognition to identify the target. Attention to cues and a			
New to task	k		high level of vigilance characterize these tasks. • A contrasting cases PE where the Soldier is required to observe multiple items			
-	ledge, no fundamentals		and determine the similarities (compare) or differences (contrast) between			
Preliminary ta	tn task <i>sk knowledge, understa</i>	nds fundamentals.	<ul> <li>them.</li> <li>Practical exercises could include rapid exposure to stimulus cues thereby requiring</li> </ul>			
O Proficient v			Soldiers to quickly develop strategies to successfully complete the tasks. Other approaches could include the use of simulations to present cues across a wide range			
Definitive task	k knowledge, executes t	he fundamentals.	of scenarios (e.g., different threat conditions, shoot-don't shoot contexts, friendly or			
Other Ver	bs at the sar	me Cognitive	enemy actions) so that Soldiers have multiple opportunities to practice these tasks. Deliberate practice across diverse situations increases the likelihood that the skills will transfer to novel situations.			
Level			Assess			
Check Define	Identify Locate	Reconnoiter Record	Whether Soldiers can complete the entire task on their own with minimal errors			
Detect	Orient	Select	Guided Notes			
Download	Recognize	Write				

	ls <u>H</u> elp		
Instruction	al Methods To	loc	
ſ	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo
1			
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction
Action Verb			Keep Sector Sector
Locate		~	Key Points for Success
Performance	Level		Facilitator Considerations
C1 - Rememberin	9		Practical Exercise Considerations
Definition			Guided Notes 🗸 🗸
To seek out and d	etermine or set the plac	e, site, position, or limits	Guided notes help Soldiers attend to important concepts. They can be used when the facilitator is presenting new content, or they can be used as study guides.
Group Size			Used to:
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>			Ease note taking     Enhance processing of new information
Experience			Identify critical concepts Techniques include:
New to task			Full version of notes: Be sure to save the full version of your notes. Some Soldiers
O Familiar wit	edge, no fundamentals. h task sk knowledge, understai	nds fundamentals.	may need this type of accommodation. <ul> <li>Highly supported notes: From the File menu, choose Save As and rename your file.</li> <li>Then strategically replace key words in your document with some blanks. This</li> </ul>
O Proficient w Definitive task	rith task <i>knowledge, executes th</i>	e fundamentals.	provides a high level of scaffolding. (Limit the number of fill-in-the blanks at this level.) • Moderately supported notes: From the File menu, choose Save As and rename your
Other Ver	bs at the san	ne Cognitive	file again. Then strategically replace more key words and phrases in your document with blanks. This provides a moderate level of scaffolding.
Level			<ul> <li>Outlined notes: From the File menu, choose Save As and rename your file again.</li> <li>Eliminate most of the text so that you have a note-taking outline. Outlines are best used with Soldiers who have learned how to summarize key constructs.</li> </ul>
Check	Identify	Reconnoiter	Guided Notes
Define Detect	Locate Orient	Record Select	Task Number: 071-329-1014 Task Title Locate as Unknown Beint on a Man and on the Conund by Interaction
Download	Recognize	Write	Task Title: Locate an Unknown Point on a Map and on the Ground by Intersection Identify an unknown point on a map by intersection using the map-and-compass method.
			a. the map on a flat surface using a compass.

101			ols <u>H</u> elp	ew F <u>a</u> vorites <u>T</u> oo
	<ul> <li>may need this type of accommodation.</li> <li>Highly supported notes: From the File menu, choose Save As and renar Then strategically replace key words in your document with some blank provides a high level of scaffolding. (Limit the number of fill-in-the blank level.)</li> <li>Moderately supported notes: From the File menu, choose Save As and file again. Then strategically replace more key words and phrases in yo with blanks. This provides a moderate level of scaffolding.</li> <li>Outlined notes: From the File menu, choose Save As and rename your f Eliminate most of the text so that you have a note-taking outline. Outlin used with Soldiers who have learned how to summarize key constructs</li> </ul>	e fundamentals.	sk knowledge, understan	<ul> <li>Familiar wi Preliminary ta</li> <li>Proficient v Definitive task</li> </ul>
	Guided Notes	Reconnoiter	Identify	Check
	Task Number: 071-329-1014 Task Title: Locate an Unknown Point on a Map and on the Ground by Intersection	Record Select	Locate Orient	Define Detect
	Identify an unknown point on a map by intersection using the map-and-compass	Write	Recognize	Download
	a the map on a flat surface using a compass.			
	b. Plot azimuths from known points (A and B) to the unknown point on the			
	b. Plot azimuths from known points (A and B) to the unknown point on the map.  1) Mark position (the observers) on the map.			
	2) Determine the azimuth from your position (A) to the unknown point			
	3) Convert the azimuth to a azimuth.			
	<ol> <li>Place the index point of a on your plotted position.</li> </ol>			
	5) Align the protractor's 0 to 180 line to the top of the map's North-Sou			
	6) Ensure the 0-degree mark is pointing to the (or top of map).			
	<ol> <li>Place a tick mark on the map beside the number on the protractor that corres the computed azimuth.</li> </ol>			
	8) Draw a straight line from your position to the tick mark and beyond			
	9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).			
	c. Identify the point where the lines as the location of the unknown p			
	d. Determine the to this location to the desired accuracy.			
	Advanced Organizers Example			
	Backwards Fading Example			
Ī	Contrasting Cases Considerations			

~

#### - 6 × (-) (-) @ http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Locate&ctype=2&value=1&igrc - 6 Instructional Methods Tool 合 ★ 章 File Edit View Favorites Tools Help Advanced Organizers Example Group Size Advanced organizers are an effective strategy for activating a student's prior knowledge, focusing a student's interests, and ( 1:16 or less setting goals for further instruction. This method of instruction refreshes (if necessary) and relates prior knowledge required to learn 1:17 or greater a new skill. Experience Advanced organizers should: New to task - Be composed of a short set of verbal or visual information No task knowledge, no fundamentals. - Be presented prior to learning . Contain no specific content from the preceding learning task O Familiar with task · Generate the logical relationships among the elements in the preceding learning task Preliminary task knowledge, understands fundamentals. Influence the learners' encoding process O Proficient with task Facilitators should: Definitive task knowledge, executes the fundamentals. · Discuss how the Soldiers' prior knowledge relates to the new task · Provide refresher training on prior knowledge (if necessary) Other Verbs at the same Cognitive Level **Related Prior** Check Identify. Reconnoiter New Skill Define Locate Record Determine Knowledge Detect Orient Select Grid Recognize Write Download Coordinates Identify Convert Magnetic to Terrain Grid Azimuth Features Locate an **Unknown Point** on a Map and on the Ground by Intersection Use a Determine Azimuths Protractor Read Marginal Information

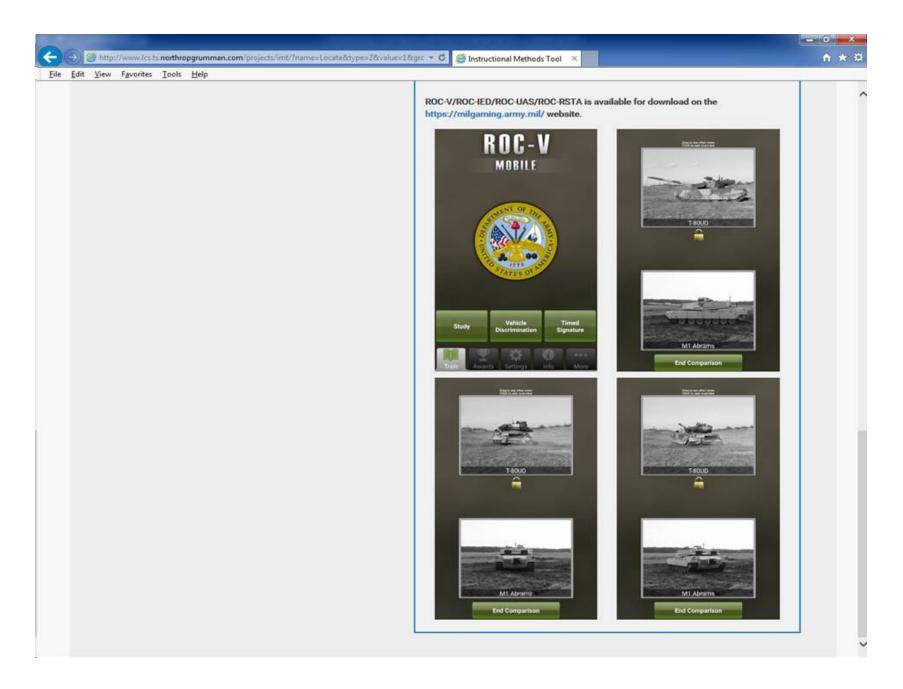
	Home About T	ool Physical Verbs	Cognitive Verbs Affect	ive Domain M	lethods of Instructi	on Crosswalk A	dmin Lo
Task Vari	ables	Clear	Recommended Met	hods and Sequen	re of Instruction		~
Action Verb					e of matuction		
Locate		~	Key Points for Succ	288			~
Performance	Level		Facilitator Consider	ations			~
C1 - Rememberin	Ig		Practical Exercise C	onsiderations			~
Definition			Guided Notes				~
To seek out and o of.	fetermine or set the plac	e, site, position, or limits	Advanced Organizers Example				~
Group Size	Group Size			Example			~
<ul> <li>1:16 or less</li> <li>1:17 or gress</li> </ul>			Backwards fading (BF) support) across learnin		noval of scaffolding (	i.e., instructional	۵
Familiar wi	ledge, no fundamentals.	nds fundamentals.	Used to: • Teach tasks to individuals who have no prior knowledge of the task • Teach tasks that are cumulative in nature (relationship between steps) • Move individuals from worked examples to problem solving Key points for success:				
O Proficient v	Proficient with task Definitive task knowledge, executes the fundamentals.			Requires ongoing evaluation of the Soldier's performance.     Facilitator determines when to remove instructional support based on Soldier     performance			
Other Ver	bs at the san	ne Cognitive	Techniques include:				
Level			<ul> <li>Series of trials (attempts) that the facilitator and Soldier perform together.</li> <li>In early learning trials, both the Soldier and the facilitator are involved in performing task steps.</li> </ul>			19	
Check Define	Identify Locate	Reconnoiter Record		rials, more and more	of the task steps are	performed by the Sold	ier
Detect	Orient Recognize	Select Write	TASK: Locate an Unkr	nown Point on a Map	BACKWARDS	FACILITATOR	

di	View Fg	Iools	Help	Record					
	Detec		Orient	Select				11 7.5 116 100 100 100 100 100 100 100 100 100	
	Dowr		Recognize	Write	TASK: Locate an Unknown and on the Ground by			BACKWARDS FADING	FACILITATOR FEEDBACK
					STEPS	T	RALS	First the facilitator	Ensure map is oriented
					Identify an unknown point on a map by intersection using the map-and-compass method.	2	1 4 5 6		orrectly     Place the compass on the     map with the outside     edge along the
					a. Orient the map on a flat surface using a compass.	æ		Trial 1 - Begins as a guided demonstra- tion. In other words,	North-South grid line     Turn the map and com-
					b. Plot grid azimuths from known points to the un- known point on the map.	ATO		each Soldier watches and mimics the task steps performed by	pass until the north-seek- ing arrow on the com- pass faces north (0 or 360 degrees)
					<ol> <li>Mark your position (the ob- servers) on the map.</li> </ol>	Ē		the facilitator. There are no 'Soldier only' steps in this trial.	Convert grid to magnetic azimuth
					(2) Determine the magnetic azimuth from your position to the unknown point.	CILIT		Trial 2 - The facilitator and the Soldiers per- form the first five task	Use the declination dia- gram in the map legend to convert from magnet-
					(3) Convert the magnetic azi- muth to a grid azimuth.	FA		steps and the Soldiers perform the last task	ic to grid
					(4) Place the index point of a protractor on your plotted			step alone. Trial 3 - The facilitator	Westerly Easterly G-M Angle G-M Angle
					<ul> <li>position.</li> <li>(5) Align the protractor's 0 to 180-degree line to the top of the map's North-South grid line.</li> </ul>			and the Soldiers per- form the first four task steps and the Soldiers perform the last two task steps alone.	Grid to Mag-Grid to Mag- Add Subtract Mag to Grid Mag to Grid Subtract Add
					(6) Ensure the 0-degree mark is pointing to the north (or top of map).			Trial 4 - The fadiitator and the Soldiers per- form the first three task steps and the Sol-	North-South (0 and 180 degrees) and East-West
					(7) Place a tick mark on the map beside the number on the protractor that corre- sponds to the computed grid azimuth.			diers perform the last three task steps alone. Trial 5 - The facilitator and the Soldiers per- form the two task step	(90 and 270 degrees) • 5 degrees to the right Repeat steps 1.b.(1) through 1.b.(8) for the magnetic azimuth from
					(8) Draw a straight line from your plotted position to the tick mark and beyond		S	and the Soldiers per- form the last four task steps alone.	the second known posi- tion
					(9) Repeat steps 1,b,(1) through 1,b,(8) for each ob- server position.		I E R	Trial 6 - The facilitator and the Soldiers per- form the first task step	Determine a 8-digit grid coordinate where the lines intersect
					<ul> <li>c. Identify the point where the lines intersect as the loca- tion of the unknown point.</li> </ul>		LD	and the Soldiers per- form the last five task steps alone.	
					d. Determine the grid coordi- nates to this location to the desired accuracy.		50	Trial 7 - The Soldiers complete the task by themselves.	

0-11

iew F <u>a</u> vorites <u>I</u> oo	ls <u>H</u> elp							
nstruction	al Methods To	ool						
	Home About T	ool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo		
Task Vari	ables	Clear		_				
Action Verb	ableo		Recommen	ded Methods and Sec	uence of Instruction	~		
			Key Points	or Success		~		
Locate		<u> </u>	Facilitator 0	onsiderations		~		
Performance			Practical Fr	oroigo Consideration		~		
C1 - Rememberin	9		Practical Ex	ercise Consideration:	5	~		
Definition				Guided Notes 🗸				
To seek out and determine or set the place, site, position, or limits of.			Advanced C	rganizers Example		~		
Group Size			Backwards	Fading Example		~		
1:16 or less					10	88		
1:17 or great	iter		Contrasting	Cases Consideration	8	~		
Experience					is determining how they are alike; whereas,			
New to task			1000 C C C C C C C C C C C C C C C C C C	sting two or more things the act of classification is	is determining how they are different. It is a s practiced.	process		
	ledge, no fundamentals.				ners distinguish between types of ideas or t			
Familiar wit Preliminary tas	n task sk knowledge, understa	nds fundamentals.	2520010125	ideas, engage in critical t erate analysis.	thinking, and go beyond mere description or	summary		
O Proficient with task					dentify language/visual/signal cues and gair ing compared. It can also be used to facilitat			
Definitive task	knowledge, executes th	e fundamentals.	instruc	tion through concept for	mation or concept attainment. It is often pre	sented in		
		0		written text paragraphs o zer of content.	r a chart. Its most common use is as a grap	hio		
Other Ver	bs at the sar	ne Cognitive	si gana					
Level			Contrasting	Cases Example		~		
Check	Identify	Reconnoiter				-		
Define	Locate	Record						
Detect	Orient	Select						

dit <u>V</u> iew F <u>a</u> vorites <u>I</u> ools <u>H</u> el	lp			
of.	in a set the proof		Advanced Organizers Example	
Group Size			Backwards Fading Example	İ.
1:16 or less			Contrasting Cases Considerations	
1:17 or greater				
Experience			Contrasting Cases Example	
New to task No task knowledge, n	o fundamentals.		Task Number: 071-730-0014	
O Familiar with task			Task Title: Identify Combat Vehicles	
Preliminary task know Proficient with tas Definitive task knowle	sk		Identify the characteristics of the observed combat vehicle(s). NOTE: Four areas of characteristics are used to determine the nomenclature. hull, armament, turret, and suspension (HATS).	
Other Verbs a	at the sam	e Cognitive	Identify HULL characteristics.	
Level	it the sam	ie oognitive	<ol> <li>Identify the general characteristics of the hull front.</li> <li>a. Identify proportionality.</li> <li>b. Identify lights, trim vane, spade, etc.</li> </ol>	
Define L Detect C	dentify .ocate Drient Recognize	Reconnoiter Record Select Write	<ul> <li>c. Identify driver position/hatches.</li> <li>2. Identify the general characteristics of the hull side. <ul> <li>a. Identify slope/shape.</li> <li>b. Identify skirting shape and composition.</li> <li>c. Identify door or hatch locations and shapes.</li> </ul> </li> <li>3. Identify the general characteristics of the hull ear. <ul> <li>a. Identify slope/shape.</li> <li>b. Identify skirting shape and composition.</li> <li>c. Identify skirting shape and composition.</li> <li>c. Identify door or hatch locations and shapes.</li> </ul> </li> </ul>	
			Identify ARMAMENT characteristics.	
			<ol> <li>Identify the main gun (if present).         <ol> <li>Identify the presence of a main gun bore evacuator to include location on the tube, size, and shape.</li> <li>Identify the presence of a muzzle brake or bore deflector.</li> </ol> </li> <li>Identify the size, shape, type, and location of missiles or rockets.</li> </ol>	
			Identify TURRET/commander's cupola characteristics.	
			<ol> <li>Identify location and shape of the turret/commander's cupola.</li> <li>Identify presence of searchlight or external optics.</li> <li>Identify presence of ammo/storage boxes or baskets.</li> <li>Identify presence of smoke dispensers.</li> </ol>	



# Appendix P

Military Task Examples C1-Remembering / Large Group / New to Task and Familiar with Task

Instructional Methods Tool	
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Task Variables	Recommended Methods and Sequence of Instruction
Action Verb	
Locate	Direct Instruction
Performance Level	<ul> <li>Facilitators present material to the large group then break the group into smaller groups to conduct the PEs</li> </ul>
C1 - Remembering	<ul> <li>Lecture and presentation of information with Guided Notes and practical exercises for Soldiers new to task</li> </ul>
Definition	<ul> <li>Soldiers familiar with the task should demonstrate proficiency first and become peer- to-peer coaches</li> </ul>
To seek out and determine or set the place, site, position, or limits	Choose the method of instruction based on the "Time of Instruction" for the ELO.
of.	Time of Method of Instruction
Group Size	Instruction 1 hour Lecture and presentation with Guided Notes.
0 1:16 or less	2 hours     Practical exercises in small groups, then discuss as a large group. Soldiers
1:17 or greater	who are familiar with the task could assist after presentation and check on learning.
Experience	4-6 hours Multiple practice sessions in small groups with Facilitator feedback, then
New to task No task knowledge, no fundamentals.	discuss as a larger group.
Familiar with task	
Preliminary task knowledge, understands fundamentals.	Key Points for Success 🗸
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul>	Facilitator Considerations 🗸
Other Verbs at the same Cognitive	Practical Exercise Considerations
Level	Guided Notes 🗸 🗸
Check Identify Reconnoiter	Advanced Organizers Example
Define Locate Record	Backwards Fading Example

[	Home About T	ool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin		
Task Vari	ables	Clear	Recommended	d Methods and Sequer	nce of Instruction	~		
Action Verb			Key Points for			~		
Locate		<b>~</b>	Ney Folitta for					
Performance	Level			ultiple practice opportunit feedback is essential	ties			
C1 - Rememberin	C1 - Remembering			s should develop question	ns based on the desired level of performa			
Definition				<ul> <li>Use the key words in the table below as guides to structure questions and use task content to complete the question</li> </ul>				
To seek out and determine or set the place, site, position, or limits of,			Cognitive Level	Question Key Words	Military Task: Apply the Military De Making Process (MDMP) Task Exe Questions/Tasks	15 (13) (5) (5) (5) (5)		
Group Size					What are the 3 types of miss	sion		
1:16 or less					orders? • Name the 5 paragraphs of a			
1:17 or great	ater		C1 -	Who, What, When, When Why, How, List, Match,	Operation Order.			
Experience			Remembering	Name, Recall, Select, etc	<ul> <li>List the steps 7 steps of the</li> <li>Match the 4 types of military</li> </ul>	The second second		
New to task	k <i>ledge, no fundamentals</i> .				briefings by definitions.			
<ul> <li>Familiar with</li> </ul>			Eacilitator	s can use the helow secu	encing techniques to promote learning			
and the second se	Preliminary task knowledge, understands fundamentals.				echniques to Promote Learning			
O Proficient v Definitive tack	vith task k <i>knowledge, executes th</i>	na fundamentale	Extending and		a number of questions at the same cogni	tive		
Demnire lass	n nomeuye, executes u	e rundamentara.	level, before lift	ing the level of questions	to the next higher level.			
Other Ver	Other Verbs at the same Cognitive			A	Apply the MDMP Step 2 Mission Analysis			
Level Check Identify Reconnoiter		Extending C2-Understandi Ask questions c	ng ir assign tasks at the	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> </ul>				
Define	Locate	Record	lower level first		<ul> <li>What are the differences between specified and implied tasks?</li> </ul>			
Detect	Orient	Select			and an desired seconds.			

Http://www.icsts.northropgrumman.com/projects/intr/Tname=Locate&type=2&va     View Fgvorites Iools Help	Instructional Methods Tool	<
Ten Tons Tons Tich	Narrow to broad – ask lower level s general questions	pecific questions, followed by next higher level
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
	Broad C2 -Understanding Then ask general questions at the next higher level.	Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.
	Broad to narrow (funneling) – ask l level specific questions	ow level general questions, followed by next higher
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
	Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>
	Facilitator Considerations	×
	Practical Exercise Consideration	s 🗸 🗸
	Guided Notes	~
	Advanced Organizers Example	×
	Backwards Fading Example	×

- 0 -×

<u>v</u> iew F <u>a</u> vorites <u>I</u> ools <u>H</u> elp		
Instructional Method	ds Tool	
Home	About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin I
Task Variables	Clear	Recommended Methods and Sequence of Instruction
Action Verb		
Locate	~	Key Points for Success V
Performance Level		Facilitator Considerations
C1 - Remembering		Facilitators should
Definition		Present the information with Guided Notes.
To seek out and determine or set	the place, site, position, or limits	<ul> <li>Provide multiple practice sessions.</li> <li>Ask inquiry questions and provide feedback</li> </ul>
of.		<ul> <li>Relate/refresh prior knowledge (Advanced Organizers) needed to complete the task.</li> <li>With a longer timeframe:</li> </ul>
Group Size		<ul> <li>Provide a cycle of presentations with examples coupled with probing</li> </ul>
1:16 or less		<ul> <li>questions that ask Soldiers to explain their responses and receive feedback</li> <li>Assess Soldiers to determine the availability of peer-to-peer learning</li> </ul>
1:17 or greater		
Experience		Practical Exercise Considerations
New to task No task knowledge, no fundan	nantale	Guided Notes
<ul> <li>Familiar with task</li> </ul>	nernara.	
Preliminary task knowledge, u	nderstands fundamentals.	Advanced Organizers Example
<ul> <li>Proficient with task</li> <li>Definitive task knowledge, exe</li> </ul>	ocutes the fundamentals.	Backwards Fading Example
		Contrasting Cases Considerations
Other Verbs at the	e same Cognitive	Contrasting Cases Example
Level		Contrasting ouses example

~

Detect

Download

Orient

Recognize

Select

Write

Task Varia	Home About T	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admir		
		and the local sector and the sector of the s	or gritting the barrier of the barri		
	hloc	Clear			
Action Vorb	IDIC3		Recommended Methods and Sequence of Instruction		
Action Verb			Key Points for Success		
Locate		× .	Facilitator Considerations		
Performance	Level		Pacimator considerations		
C1 - Remembering			Practical Exercise Considerations		
of. Group Size 1:16 or less 1:17 or great Experience New to task No task knowle Familiar with Preliminary task Proficient wi Definitive task knowle	er dge, no fundamentals. task knowledge, understau th task nowledge, executes th		<ul> <li>Practical Exercises</li> <li>A backwards fading PE where Soldiers are first shown the complete worked example and certain components are then removed to finally the Soldiers complete the entire task on their own.</li> <li>Some tasks related to verbs at this level involve recognizing, identifying, locating, detecting, etc. a target, pattern, etc. (e.g., aircraft, vehicle, patterns of life) and taking action or making decisions based on the outcome of those tasks.</li> <li>For these types of tasks, PEs would first involve defining the conditions in which the task occurs. This includes defining the features of the situation. Then, materials are developed to train and test Soldiers to recognize those features and use that recognition to identify the target. Attention to cues and a high level of vigilance characterize these tasks.</li> <li>A contrasting cases PE where the Soldier is required to observe multiple items and determine the similarities (compare) or differences (contrast) between them.</li> <li>Practical exercises could include rapid exposure to stimulus cues thereby requiring Soldiers to quickly develop strategies to successfully complete the tasks. Other approaches could include the use of simulations to present cues across a wide range of scenarios (e.g., different threat conditions, shoot-don't shoot contexts, friendly or enemy actions) so that Soldiers have multiple opportunities to practice these tasks. Beliberate practice across diverse situations increases the likelihood that the skills will transfer to novel situations.</li> </ul>		
Check	Identify Locate	Reconnoiter Record	Will transfer to novel situations.     Assess     Whether Soldiers can complete the entire task on their own with minimal errors.		

Definition     Guided Notes     Guided Notes       To seek out and determine or set the place, site, position, or limits of.     Guided notes help Soldiers attend to important concepts. They can be used when the Facilitator is presenting new content, or they can be used as study guides.       If is or less     113 for rigesater       Experience     Immiliar with task knowledge, individementals.       Proficient with task browledge, understands fundamentals.       Proficient with task browledge, executes the fundamentals.       Other Verbs at the same Cognitive Level       Check     Identify       Check     Identify       Detect       Download     Recognize       Write       Detect       Download     Recognize       Write       Detect       Download       Recognize       Write       Idea the action of the appoint on a map by intersection       Joing the portacion to a subge and contenges.       Detect       Download       Recognize       Write       Detect       Download       New to basis the new to a sub the sub the map.       JOace the che help detect and bricky main action an Alwap and on the Ground by Intersection       Detect       Download       Recognize       Write <th>View Favorites Io</th> <th>ols <u>H</u>elp</th> <th></th> <th></th>	View Favorites Io	ols <u>H</u> elp		
Group Size       □ 1:16 or less         ● 1:17 or greater       ■         Experience       ●         ● New to task       More task knowledge, no fundamentals.         ● Proficient with task       ●         Proficient with task       Built action to prevent on the File menu, choose Save as and rename your file. Then the same Cognitive         Level       ■         Check       Identify Reconnoiter         Definitive task knowledge, and entance solution       Built actional file file menu, choose Save as and rename your file. Then the same solutions are build. This provides a high level of acad70ting. (Limit the same solutions are build. This provides a high level of acad70ting. (Limit task showledge, executes the fundamentals.         Other Verbs at the same Cognitive Level       ■         Check       Identify Reconnoiter         Definitive task knowledge. Write       ■         Check       Identify Amage and the so that yo inter acta	Definition			Guided Notes 🗸 🗸
Group Size       Pacilitatic in presenting new content, or they can be used as study guides.         1:16 or less       Image: Size in the size into size in the size in th	To seek out and determine or set the place, site, position, or limits of.		site, position, or limits of.	
<ul> <li>1:17 or greater</li> <li>Experience</li> <li>New to task We task knowledge, no fundamentals.</li> <li>Familiar with task Petininiary task knowledge, excutes the fundamentals.</li> <li>Proficient with task Definitive task indextende fundamentals.</li> <li>Proficient with task Definitive task indextende fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Check Identify Reconnoiter Definite Locate Record Detect Orient Select Download Recognize Write</li> <li>Guided Notes</li> <li>Guided Notes</li> <li>Guided Notes</li> <li>Check Identify Reconnoiter</li> <li>Definite and the select Below Write</li> <li>Select Download Recognize Write</li> <li>Select Download Recognize Write</li> <li>Select IDENTIFY Select The Select IDENTIFY Select The Selec</li></ul>	Group Size			
Experience <ul> <li>Enhance processing of new information.</li> <li>identify critical concepts.</li> </ul> Partiliar with task Proliminary task knowledge, understands fundamentals. <ul> <li>Familiar with task Definitive task knowledge, exacutes the fundamentals.</li> </ul> Other Verbs at the same Cognitive Level <ul> <li>Highly suggestation to find the same pour file. Then strategically replace more key words in your document with some blanks. This provides a high level of scaffolding. (Limit the number of file-the blanks at this level.)</li> </ul> Other Verbs at the same Cognitive Level <ul> <li>Moderately supgestion to file means, choose Save as and rename your file again. Eliminate most of the text so that you have a more taking outline. Outlines are beat used with Soldiers who have learned how to summarize kay constructs.</li> </ul> Orack       Identify       Recornd         Define       Locate       Record         Detect       Orient       Select         Download       Recognize       Write         Identify an unknown point on a map by intersection <ul> <li>Mark Lumbown point, And B) to the unknown point on the map.</li> <li>Mark</li></ul>	O 1:16 or less			Used to:
<ul> <li>identify critical concepts.</li> <li>identify critical concepts.</li> <li>identify critical concepts.</li> <li>Techniques include:</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Check Identify Reconnoiter Define Locate Record Define Select Download Recognize Write</li> <li>Guided Notes</li> <li>Task Number:071-329-1014</li> <li></li></ul>	1:17 or greater			Ease note taking.
<ul> <li>New to task New to task Provide an understands Familiar with task Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Cognitive Level Check identify Reconnoiter Define Locate Record Define Select Orient Select Orient Select Orient Select Orient Select Orient Select Orient Select Download Recognize Write Select Orient Select</li></ul>	Experience			
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Check Identify Reconnoiter Define Locate Record Define Locate Record Define Locate Write</li> <li>Check Identify Reconnoiter Define Locate Record Define Select Download Recognize Write</li> <li>Write</li> <li>Guided Notes Compass.</li> <li>b. Plot azimuths from known point on a Map and on the Ground by Intersection Identify an unknown point on a map by intersection using the map-and-compass method. a the map on a flat surface using a compass.</li> <li>b. Plot azimuths from known point (A and B) to the unknown point. 3) Convert the azimuths from your position (A) to the unknown point. 3) Convert the azimuth from your position (A) to the unknown point. 3) Convert the azimuth. 4) Place the index point of a on your plotted position. 5) Align the protractor's to ta 180 line to the top of the map's North-South grid line. 6) Ensure the 0-degree mark is pointing to the (or top of map). 7) Place a tick mark on the map benefits of the observer position (B). 8) Draw a straight line from your position the tick mark and beyond. 8) Draw a straight line from your position to the tick mark and beyond. 9) Repeat steps 1,b.(1) through 1,b.(8) for the observer position (B).</li> </ul>	$\sim$			
<ul> <li>Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Check Identify Reconnoiter Define Locate Record Detect Orient Select Download Recognize Write</li> <li>Guided Notes</li> <li>Guided Notes</li> <li>Guided Notes</li> <li>Guided Notes</li> <li>Guided Notes</li> <li>Check Identify Reconnoiter Define Locate Record Detect Orient Select Download Recognize Write</li> <li>Guided Notes</li> <li>Download Recognize Write</li> <li>Guided Notes</li> <li>Determine the pier many choose Save as and rename your file again. Eliminate most of the text so that you have a note taking outline. Outlines are best used with Soldiers who have learned how to summarize key constructs.</li> <li>Guided Notes</li> <li>Download Recognize Write</li> <li>Select Downloat file Locate Record Determine the pier many choose Save as and rename your file again. Eliminate most of the text so that you have a note taking outline are best used with Soldiers who have learned how to summarize key constructs.</li> <li>Guided Notes</li> <li>Detect Orient Select Download Recognize Write</li> <li>Jask Number: 071:329-1014</li> <li>Task The Locate an Unknown Point on a map by intersection using the map-and-compass method. a</li></ul>	Familiar with task     Preliminary task knowledge, understands fundamentals.			
Definitive task knowledge, executes the fundamentals.         Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive Level         Check       Identify         Reconnoiter         Definitive task knowledge, executes the fundamentals.				
<ul> <li>Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive <ul> <li>Level</li> <li>Check</li> <li>Identify</li> <li>Reconnoiter</li> <li>Define</li> <li>Locate</li> <li>Record</li> <li>Download</li> <li>Recognize</li> <li>Write</li> </ul> </li> <li>Guided Notes</li> <li>Task Number: 071-329-1014</li> <li>Task Number:</li></ul>				
Other Verbs at the same Cognitive       again. Then strategically replace more key words and phrases in your document with blanks. This provides a moderate level of scaffolding.         Check       Identify       Reconnoiter         Define       Locate       Record         Detect       Orient       Select         Download       Recognize       Write         Vertex       Vertex       Guided Notes         Check is in provided	Definitive task	knowledge, executes the	fundamentals.	
Level       • Outlined rotes: From the File menu, choose Save as and rename your file again. Eliminate most of the text so that you have a note taking outline. Outlines are best used with Soldiers who have learned how to summarize key constructs.         Check       Identify       Record         Define       Locate       Record         Detect       Orient       Select         Download       Recognize       Write         Identify an unknown point on a Map and on the Ground by Intersection       Identify an unknown point on a map by intersection using the map-and-compass method.         a				again. Then strategically replace more key words and phrases in your document with
Level       most of the text so that you have a note taking outline. Outlines are best used with Soldiers who have learned how to summarize key constructs.         Check       Identify       Record         Define       Locate       Record         Detect       Orient       Select         Download       Recognize       Write         Vertex       Vertex       Select         Download       Recognize       Write         Vertex       Vertex       Select         Download       Recognize       Write         Vertex       Vertex       Select         Download       Recognize       Vertex         Vertex       Select       Task Number:071:320-1014         Task Define unknown point on a map by intersection using the map-and-compass method.         a	Other Verl	os at the sam	e Cognitive	
Check       Identify       Reconnoiter         Define       Locate       Record         Detect       Orient       Select         Download       Recognize       Write         Identify an unknown point on a Map and on the Ground by Intersection       Identify an unknown point on a map by intersection using the map-and-compass method.         a	l evel			
Define       Locate       Record         Detect       Orient       Select         Download       Recognize       Write         View       View       View         View <t< th=""><th></th><th></th><th></th><th></th></t<>				
Detect       Orient       Select         Download       Recognize       Write         Task Number: 071-329-1014       Task Number: 071-329-1014         Task Title: Locate an Unknown Point on a Map and on the Ground by Intersection       Identify an unknown point on a map by intersection using the map-and-compass method.         a				Guided Notes
Download       Recognize       Write       Task Title: Locate an Unknown Point on a Map and on the Ground by Intersection         Identify an unknown point on a map by intersection using the map-and-compass method.       a				
Identify an unknown point on a map by intersection using the map-and-compass method.         athe map on a flat surface using a compass.         b. Plotazimuths from known points (A and B) to the unknown point on the map.         1) Markposition (the observers) on the map.         2) Determine theazimuth from your position (A) to the unknown point.         3) Convert theazimuth to aazimuth.         4) Place the index point of aon your plotted position.         5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.         6) Ensure the 0-degree mark is pointing to the(or top of map).         7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).				Task Title: Locate an Unknown Point on a Map and on the Ground by Intersection
b. Plotazimuths from known points (A and B) to the unknown point on the map.         1) Markposition (the observers) on the map.         2) Determine theazimuth from your position (A) to the unknown point.         3) Convert theazimuth to aazimuth.         4) Place the index point of aon your plotted position.         5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.         6) Ensure the 0-degree mark is pointing to the (or top of map).         7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).				Identify an unknown point on a map by intersection using the map-and-compass method.
1) Mark position (the observers) on the map.         2) Determine the azimuth from your position (A) to the unknown point.         3) Convert the azimuth to a azimuth.         4) Place the index point of a on your plotted position.         5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.         6) Ensure the 0-degree mark is pointing to the (or top of map).         7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).				a the map on a flat surface using a compass.
2) Determine theazimuth from your position (A) to the unknown point.         3) Convert theazimuth to aazimuth.         4) Place the index point of aon your plotted position.         5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.         6) Ensure the 0-degree mark is pointing to the (or top of map).         7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (8).				b. Plot azimuths from known points (A and B) to the unknown point on the map.
3) Convert theazimuth to aazimuth.         4) Place the index point of aon your plotted position.         5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.         6) Ensure the 0-degree mark is pointing to the (or top of map).         7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (8).				1) Mark position (the observers) on the map.
<ul> <li>4) Place the index point of a on your plotted position.</li> <li>5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.</li> <li>6) Ensure the 0-degree mark is pointing to the (or top of map).</li> <li>7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.</li> <li>8) Draw a straight line from your position to the tick mark and beyond.</li> <li>9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).</li> </ul>				2) Determine the azimuth from your position (A) to the unknown point.
5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.         6) Ensure the 0-degree mark is pointing to the (or top of map).         7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).				3) Convert theazimuth to aazimuth.
<ul> <li>6) Ensure the 0-degree mark is pointing to the (or top of map).</li> <li>7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.</li> <li>8) Draw a straight line from your position to the tick mark and beyond.</li> <li>9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).</li> </ul>				<ol> <li>Place the index point of a on your plotted position.</li> </ol>
7) Place a tick mark on the map beside the number on the protractor that corresponds to the computed azimuth.         8) Draw a straight line from your position to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (8).				5) Align the protractor's 0 to 180 line to the top of the map's North-South grid line.
the computedazimuth.         8) Draw a straight line from yourposition to the tick mark and beyond.         9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).				6) Ensure the 0-degree mark is pointing to the (or top of map).
9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (B).				
				8) Draw a straight line from your position to the tick mark and beyond.
				9) Repeat steps 1.b.(1) through 1.b.(8) for the observer position (8).

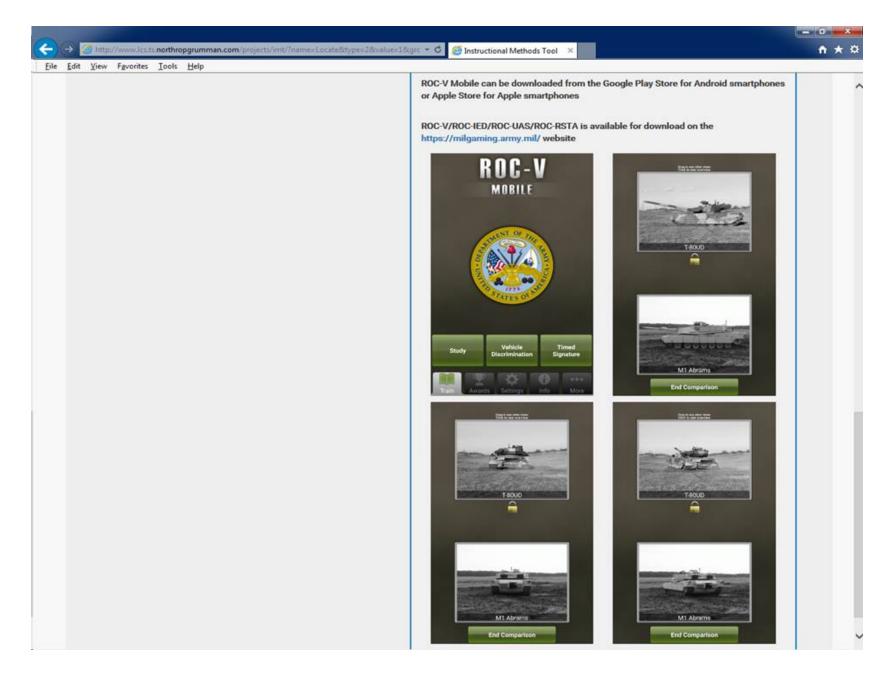
Group Size			Advanced Organizers Example 🗸 🗸 🗸		
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>	er		Advanced organizers are an effective strategy for activating student's prior knowledge, focusing student's interests, and setting goals for further instruction. This method of instruction refreshes (if necessary) and relates prior knowledge required to learn a new skill.		
Experience			Advanced Organizers should:		
<ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> </ul>		indamentals.	Be composed of a short set of verbal or visual information;     Be presented prior to learning;     Contain no specific content from the preceding learning task;     Generate the logical relationships among the elements in the preceding learning task; and     Influence the learners' encoding process.     Facilitators should:		
			Discuss how the Soldiers prior knowledge relates to the new task     Provide refresher training on prior knowledge (if necessary)		
Check Define Detect Download	Identify Locate Orient Recognize	Reconnoiter Record Select Write	Related Prior Knowledge Convert Magnetic to Grid Azimuth Locate an Unknown Point on a Map and on the Ground by Intersection Use a Protractor Read Marginal Information		

ſ	Home About T					
	Account 1	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L			
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction			
Action Verb						
Locate		~	Key Points for Success			
Performance	Level		Facilitator Considerations			
C1 - Rememberin	g		Practical Exercise Considerations			
Definition			Guided Notes			
To seek out and o of.	letermine or set the plac	e, site, position, or limits	Advanced Organizers Example			
Group Size			Backwards Fading Example			
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>			Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials.			
Experience			Used to:			
Familiar wite	ledge, no fundamentals.	nds fundamentals.	Teach tasks to individuals who have no prior knowledge of the task     Teach tasks that are cumulative in nature (relationship between steps)     Move individuals from worked examples to problem solving     Key points for success:			
O Proficient v	영상 가슴은 것 것 같은 것 같이 가지?		Requires ongoing evaluation of the Soldier's performance.     Facilitator determines when to remove instructional support based on Soldier     performance			
Other Ver	bs at the san	ne Cognitive	Techniques include:			
Level			<ul> <li>Series of trials (attempts) that the facilitator and Soldier perform together.</li> <li>In early learning trials, both the Soldier and the facilitator are involved in performing task steps.</li> </ul>			
Check Define	Identify Locate	Reconnoiter Record	<ul> <li>In later learning trials, more and more of the task steps are performed by the Soldier alone.</li> </ul>			
	Orient	Select	TASK: Locate an Unknown Point on a Map BACKWARDS FACILITATOR			

Ĕq		v Favorites	Tools	Help	Record					
		Detect		Orient	Select			100011-001	The supervision of the supervisi	
		Download		Recognize	Write	TASK: Locate an Unknown and on the Ground by			BACKWARDS FADING	FACILITATOR FEEDBACK
					STEPS	TF	RALS	First the facilitator	Ensure map is oriented	
						Identify an unknown point on a map by intersection using the map-and-compass method.	Omen 1 2	1456	demonstrates the task from beginning to end while the Soldiers watch.	correctly     Place the compass on the     map with the outside     edge along the
						a. Orient the map on a flat surface using a compass.	æ		Trial 1 - Begins as a guided demonstra- tion. In other words,	North-South grid line     Turn the map and com-
						b. Plot grid azimuths from known points to the un- known point on the map.	ATO		each Soldier watches and mimics the task steps performed by	pass until the north-seek- ing arrow on the com- pass faces north (0 or 360 degrees)
					<ol> <li>Mark your position (the ob- servers) on the map.</li> </ol>	Ē	<ul> <li>the facilitator. T are no 'Soldier density this bit</li> </ul>	the facilitator. There are no 'Soldier only' steps in this trial.	Convert grid to magnetic azimuth	
					(2) Determine the magnetic azimuth from your position to the unknown point.	CILIT		Trial 2 - The facilitator and the Soldiers per- form the first five task	Use the declination dia- gram in the map legend to convert from magnet	
						(3) Convert the magnetic azi- muth to a grid azimuth.	F A		steps and the Soldiers perform the last task step alone. Trial 3 - The facilitator and the Soldiers per-	ic to grid
						(4) Place the index point of a protractor on your plotted position.				Westerly Easterly G-M Angle G-M Angle Grid to Mag-Grid to Mag-
						(5) Align the protractor's 0 to form the steps and 180-degree line to the top of perform the perform the steps and perform the steps and perform the performance of the steps and perform the steps and perform the steps and performance of the steps and performance of the st	form the first four task steps and the Soldiers perform the last two task steps alone.	Add Subtract Mag to Grid-Mag to Grid- Subtract Add		
						(6) Ensure the 0-degree mark is pointing to the north (or top of map).			Trial 4 - The fadilitator and the Soldiers per- form the first three task steps and the Sol-	• North-South (0 and 180 degrees) and East-West
				(7) Place a tick mark on the map beside the number on the protractor that corre- sponds to the computed grid azimuth.		-	diers perform the last three task steps alone. Trial 5 - The facilitator and the Soldiers per- form the two task step	(90 and 270 degrees) • 5 degrees to the right Repeat steps 1.b.(1) through 1.b.(8) for the magnetic azimuth from		
					(8) Draw a straight line from your plotted position to the tick mark and beyond		S	and the Soldiers per- form the last four task steps alone. Di Trial 6 - The facilitator and the Soldiers per form the first task step	the second known posi- tion	
					(9) Repeat steps 1,b,(1) through 1,b,(8) for each ob- server position.		I E R		Determine a 8-digit grid coordinate where the lines intersect	
					c. Identify the point where the lines intersect as the loca- tion of the unknown point.		LD	and the Soldiers per- form the last five task steps alone.		
						d. Determine the grid coordi- nates to this location to the desired accuracy.		S O	Trial 7 - The Soldiers complete the task by themselves.	

View Favorites To	and a straining of								
Instruction	al Methods To	ool							
	Home About T	ool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo			
Task Vari	ables	Clear				_			
Action Verb	abies		Recommen	ded Methods and Sec	quence of Instruction	<b>~</b>			
Locate			Key Points	for Success		~			
Performance	Lovol		Facilitator 0	Considerations		~			
C1 - Remembering <b>Definition</b> To seek out and determine or set the place, site, position, or limits			Practical Ex	Practical Exercise Considerations					
			Guided Notes						
of.				organizers Example		~			
Group Size			Backwards	Fading Example		~			
<ul> <li>1:16 or less</li> <li>1:17 or gress</li> </ul>	1:16 or less			Contrasting Cases Considerations					
Experience			Compa	ring two or more things	is telling how they are alike, whereas, contra	asting			
New to tas	k		two or	two or more things is telling how they are different. It is a process where the act of classification is practiced.					
	ledge, no fundamentals.		<ul> <li>Used t</li> </ul>	o help learners distinguis	h between types of ideas or to group simila	75 YOH 52 ST25			
Familiar wi Prol/minany to	th task <i>sk knowledge, understa</i> i	rde fundamentale	engagi analys	Crubbin ben human are the	go beyond mere description or summary to	generate			
Proficient v		na nunuamentara.	• It can l	e used to help learners i	dentify language/visual/signal cues and gai	1-111-0-11110-0-1-1			
	k knowledge, executes tl	e fundamentals.	1. 1. S. 1.		ing compared. It can also be used to facilita mation or concept attainment. It is often pre	2.5020 MID:001-R01-R020			
	Less a also			either written text paragraphs or a chart. Its most common use is as a graphic organizer of content.					
	bs at the sar	ne Cognitive							
Level			Contrasting	Cases Example		~			
Check	Identify	Reconnoiter							
Define	Locate	Record							
Detect	Orient	Select							

Experience			Contrasting Cases Example			
New to task	c		T-LN-L-071 220 0014			
No task know	ledge, no fundamentals.		Task Number: 071-730-0014			
Familiar with Proliminant to	th task <i>sk knowledge, understa</i> i	ada huadamaatala	Task Title: Identify Combat Vehicles Identify the characteristics of the observed combat vehicle(s). NOTE: Four areas of			
O Proficient w			characteristics are used to determine the nomenclature: hull, armament, turret, and suspension (HATS).			
		0	Identify HULL characteristics.			
	bs at the san	ne Cognitive	1. Identify the general characteristics of the hull front.			
Level			<ul> <li>a. Identify proportionality,</li> <li>b. Identify lights, trim vane, spade, etc.</li> </ul>			
Check Define Detect Download	Identify Locate Orient Recognize	Reconnoiter Record Select Write	c.Identify driver position/hatches.     2. Identify the general characteristics of the hull side.     a. Identify slope/shape.     b. Identify door or hatch locations and shapes.     3. Identify the general characteristics of the hull ear.     a. Identify slope/shape.     b. Identify slope/shape.     b. Identify slope/shape.     b. Identify slope/shape.     b. Identify skirting shape and composition.     c. Identify door or hatch locations and shapes.     Identify door or hatch locations and shapes.     Identify ARMAMENT characteristics.     I. Identify the main gun (if present).     a. Identify the presence of a main gun bore evacuator to include location on the tube, size, and shape.     b. Identify the presence of a muzzle brake or bore deflector.     2. Identify the size, shape, type, and location of missiles or rockets.			
			Identify TURRET/commander's cupola characteristics. 1. Identify location and shape of the turret/commander's cupola. 2. Identify presence of searchlight or external optics. 3. Identify presence of ammo/storage boxes or baskets. 4. Identify presence of smoke dispensers.			
			Identify SUSPENSION characteristics.			
			<ol> <li>Identify tracked system characteristics.</li> <li>Identify wheeled system characteristics.</li> </ol>			



# Appendix Q

Military Task Examples C2+C3 – Understanding and Applying / Small Group / New with Task

٦	Home About To	ol Physical Verbs						
		or Physical verbs	Cognitive Verbs	Affective Domain Methods of Instruction Crosswalk Admin				
Task Varia	ables	Clear						
Action Verb			Recommend	led Methods and Sequence of Instruction				
Calculate		~	Without pre-c	lass work:				
Performance Level				e class with a practical exercise designed to have Soldiers solve a particular n, review elements of a case study, or research possible reasons for particular				
C3 - Applying	Level		100,0000	mission outcomes.				
			With pre-class	s work:				
Definition To ascertain by exercise of practical judgment or mathematical processes. Group Size 1:16 or less 1:17 or greater Experience				th a review of the homework and how it applies across a range of contexts.				
			Choose the m	ethod of instruction based on the "Time of Instruction" for the ELO.				
			Time of Instruction					
			2 hours	PE without presentation or information, then presentation with				
				information, then review of student's work as a group. Or				
				Case study and answer questions, then discuss as a group; information could be presented after the group discussions				
New to task			4-8 hours	After initial PE and presentation or group discussion and presentation,				
	edge, no fundamentals.			students apply their knowledge to a novel context.				
Familiar wit Preliminary tas	n task sk knowledge, understand	ls fundamentals.						
O Proficient w	rith task		Key Points for Success Facilitator Considerations					
Definitive task	knowledge, executes the	fundamentals.						
Other Ver	bs at the sam	e Cognitive	Practical Exe	ercise Considerations				
Level			Sequence of	Instruction Example				
Access	Debrief	Perform	e de la companya de l	Information Examples				
Administer	Demonstrate	Prepare	Just in Thile					
Annotate Apply	Employ Ensure	Present Process	Backwards F	Fading Example				
Brief	Estimate	Produce	Concernences and the second					

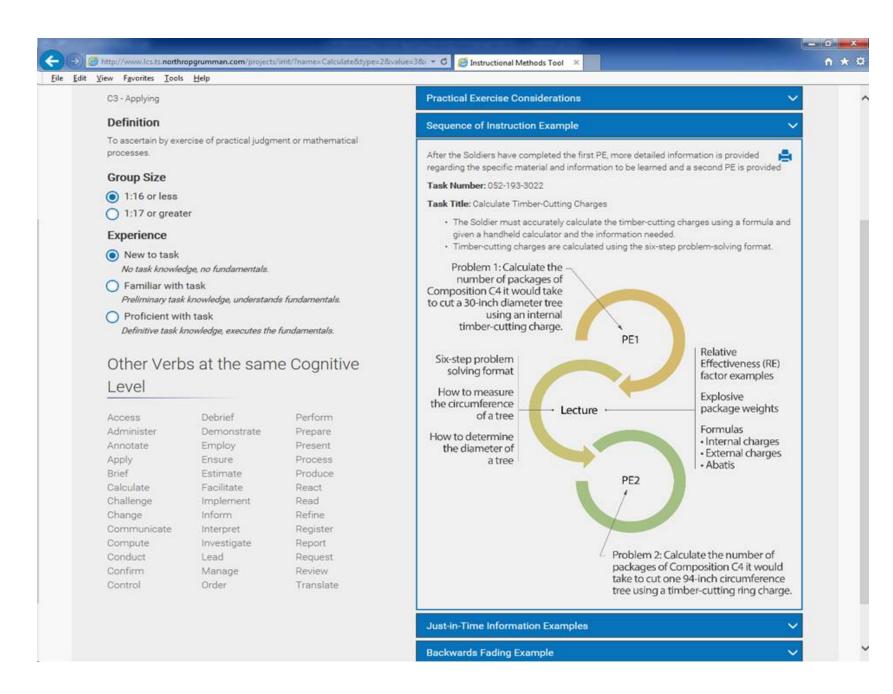
nstruction	al Methods To	ol						
ſ	Home About To	ol Physical Verbs	Cognitive Verbs A	ffective Domain Meth	ods of Instruction Crosswalk Admin			
Task Vari	ables	Clear	Percommended	Methods and Sequence o	flastruction			
Action Verb Calculate					in instruction			
			Key Points for S	Success	8			
Performance	Level		Without pre-class	work:				
C3 - Applying				<ul> <li>Soldiers apply knowledge and skills across varied contexts</li> <li>Facilitator feedback is essential.</li> </ul>				
Definition			With pre-class work:					
To ascertain by exercise of practical judgment or mathematical processes.			<ul> <li>Homework is provided, such as read-aheads, interactive multimedia instruction, presentation slides, Army doctrinal manuals and pamphlets.</li> <li>Soldiers apply the information to their own experiences, and then discuss these experiences in class.</li> <li>Face-to-face time in the classroom is used to build on existing or learned knowledge.</li> </ul>					
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>			<ul> <li>Existing knowledge can be related to different contexts.</li> <li>Facilitator feedback is essential.</li> <li>Facilitators should develop questions based on the desired level of performance.</li> </ul>					
Experience			<ul> <li>Use the key words in the table below as guides to structure questions and use task content to complete the question</li> </ul>					
New to task No task knowledge, no fundamentals.					Military Task: Apply the Military Decision			
Familiar wit Preliminary ta:		ds fundamentals.	Cognitive Level	Question Key Words	Making Process (MDMP) Task Example Questions/Tasks			
Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Cognitive Level		C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc.	Compare and Contrast the similarities and differences between plans and orders.     Explain the purpose of the running estimate.     Summarize higher headquarters concept of the operation.     Restate the commander's intent in				
Access	Debrief	Perform			your own words.			
Administer	Demonstrate	Prepare			<ul> <li>Identify the specified, implied, and essential tasks.</li> </ul>			
Annotate Apply	Employ Ensure	Present Process	02 4-14	Develop, Identify, Construct,	<ul> <li>Develop 2 COAs based on commander's guidance.</li> </ul>			
Brief	Estimate	Produce	C3 - Applying	Organize, Plan, Utilize, etc.	Construct tentative task			

View Favorites Iools	Help		14 44	22				
Annotate Apply Brief Calculate Challenge Change	Employ Ensure Estimate Facilitate Implement Inform	Prepare Present Process Produce React Read Refine	C3 - Applying	Develop, Identify, Cor Organize, Plan, Utilize		<ul> <li>Identity the specified, implied, and essential tasks.</li> <li>Develop 2 COAs based on commander's guidance.</li> <li>Construct tentative task organizations for each COA.</li> <li>Identify resource shortfalls.</li> </ul>		
Communicate Compute	Interpret Investigate	Register Report	Facilitator	's can use the below sequencing techniques to promote learning		nniques to promote learning		
Conduct	Lead	Request		Question Sequencing	Techniques	to Promote Learning		
Confirm Control	Manage Order	Review Translate		Extending and lifting – involves asking a number of questions at the same cognitive level, before lifting the level of questions to the next higher level.				
			Example		Apply the M	DMP Step 2 Mission Analysis		
			Extending C2-Understand Ask questions o lower level first	or assign tasks at the	conc • Resta Task • What	marize the higher headquarters ept of the operation. ate your organization's mission as a and Purpose statement. are the differences between specified mplied tasks?		
				sign a task at the next ft the Soldier's level of ng.	tasks	ify and list the specified and implied within the OPORD that pertain to your nization.		
				Narrow to broad – ask lower level specific questions, followed by next higher level general questions				
			Example		Apply the M Game)	DMP Step 4 COA Analysis (War		
			Narrow C1-Rememberi Ask specific qu level first	ng estions at the lower	OPFC (MEC • What an OF • What OPFC	is the vehicle composition of an DR Mechanized Infantry Company CH Inf (IFV) Co)? are the main offensive weapons of PFOR MECH Inf (IFV) Co? enabling assets as assigned to an DR MECH Inf (IFV) Co to tailor it as a pany Detachment (CDET)?		
			Broad C2 -Understand Then ask gener next higher leve	al questions at the	MECI	in how the enemy would deploy a H Inf (IFV) Co as the fixing element g offensive operations.		

	ومعاد المعاري والمتحال المراجع والمتحا والتر		- 0 - X
(iii)      (iiii)      (iiiii)      (iiiiii)      (iiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiii)      (iiiiiiii)      (iiiiiiii)      (iiiiiiiii)      (iiiiiiiii)      (iiiiiiiiii	alue=38a 👻 😋 Instructional Methods Tool 🛛 🗙		n * 2
<u>F</u> ile <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>I</u> ools <u>H</u> elp	C2-Understanding Ask questions or assign tasks at the lower level first	Task and Purpose statement. • What are the differences between specified and implied tasks?	
	Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>	
	Narrow to broad – ask lower level spe general questions		
	Example	Apply the MDMP Step 4 COA Analysis (War Game)	
	Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>	
	Broad C2 -Understanding Then ask general questions at the next higher level	Explain how the enemy would deploy a     MECH Inf (IFV) Co as the fixing element     during offensive operations.	
	Broad to narrow (funneling) – ask low level specific questions	v level general questions, followed by next higher	
	Example	Apply the MDMP Step 4 COA Analysis (War Game)	
	Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?	
	Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>	

Instructional Methods Tool         Home       About Tool       Physical Verbs       Cognitive Verbs       Affective Domain       Methods of Instruction Crosswa         Task Variables       Calculate       Image: Calculate <td< th=""><th>k Admin</th></td<>	k Admin			
Task Variables   Action Verb   Calculate   Verformance Level   C3 - Applying   Definition   To ascertain by exercise of practical judgment or mathematical processes.   Group Size   1:16 or less   1:17 or greater   Experience   New to task knowledge, no fundamentals.   Pamiliar with task perliminary task knowledge, understands fundamentals.   Pamiliar with task perliminary task knowledge, understands fundamentals.	k Admin			
Task Variables   Action Verb   Calculate   Performance Level   C3 - Applying   Definition   To ascertain by exercise of practical judgment or mathematical processes.   Group Size   1:16 or less   1:17 or greater   Experience   New to task howledge, no fundamentals.   Pamiliar with task perliminary task knowledge, understande fundamentals.	~ ~ ~			
Action Verb       Recommended Methods and Sequence of Instruction         Action Verb          Calculate          Performance Level          C3 - Applying          Definition          To ascertain by exercise of practical judgment or mathematical processes.          Group Size          1:16 or less          1:17 or greater          Experience          Not task knowledge, no fundamentals.          Familiar with task Preliminary task knowledge, understande fundamentals.          Familiar with task       Preliminary task knowledge, understande fundamentals.	~			
Action Verb  Calculate  Performance Level  C3 - Applying  Definition  To ascertain by exercise of practical judgment or mathematical processes.  Group Size  I 1:16 or less I 1:17 or greater  Experience  New to task No task	~			
<ul> <li>Calculate</li> <li>Performance Level</li> <li>C3 - Applying</li> <li>Definition</li> <li>To ascertain by exercise of practical judgment or mathematical processes.</li> <li>Group Size         <ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task No task No task No task knowledge no fundamentals.</li> <li>Familiar with task Preliminary task knowledge understands fundamentals.</li> </ul> </li> </ul>	~			
Performance Level         C3 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         © 1:16 or less         O 1:17 or greater         Experience         New to task Nov task Nov task Nov task Nov task knowledge, no fundamentals.         Familiar with task Preliminary task knowledge, understands fundamentals.	~			
<ul> <li>C3 - Applying</li> <li>Definition</li> <li>To ascertain by exercise of practical judgment or mathematical processes.</li> <li>Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> </li> <li>Experience</li> <li>New to task Nov to task Nov to task Nov task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul> <li>Without pre-class work, Facilitators should: <ul> <li>Conduct the first Practical Exercise (PE) (before providing information).</li> <li>Provide more detailed information regarding the specific material and in the learned (e.g., a lecture).</li> <li>Conduct a second PE</li> <li>If the class has a short time frame, provide feedback to the Soldiers on the attempted solutions, discuss the intended outcomes, discuss that althou contexts differed the knowledge and skills to perform successfully in the were the same</li> <li>Ask probing questions requiring Soldiers to explain their responses shou provide feedback on these responses.</li> </ul></li>				
<ul> <li>Definition <ul> <li>To ascertain by exercise of practical judgment or mathematical processes.</li> </ul> </li> <li>Group Size <ul> <li>I:16 or less</li> <li>I:17 or greater</li> </ul> </li> <li>Experience <ul> <li>New to task <ul> <li>No task knowledge, no fundamentals.</li> <li>Familiar with task <ul> <li>Previde more demains a star of contexts</li> <li>Familiar with task</li> <li>Previde more demains a star of contexts</li> <li>Familiar with task <ul> <li>Previde more demains and of contexts</li> <li>Foroide more detailed information regarding the specific material and in be learned (e.g., a lecture),</li> <li>Conduct a second PE</li> </ul> </li> <li>1. Conduct the first Practical Exercise (PE) (before providing information).</li> <li>Provide more detailed information regarding the specific material and in be learned (e.g., a lecture),</li> <li>Conduct a second PE</li> <li>If the class has a short time frame, provide feedback to the Soldiers on the attempted solutions, discuss the intended outcomes, discuss that althout contexts differed the knowledge and skills to perform successfully in the were the same</li> <li>Ask probing questions requiring Soldiers to explain their responses should provide feedback on these responses.</li> </ul></li></ul></li></ul></li></ul>	- A			
To ascertain by exercise of practical judgment or mathematical processes.       be learned (e.g., a lecture),         Group Size       3. Conduct a second PE         If the class has a short time frame, provide feedback to the Soldiers on the attempted solutions, discuss the intended outcomes, discuss that althout contexts differed the knowledge and skills to perform successfully in the were the same         I:17 or greater       5. Ask probing questions requiring Soldiers to explain their responses should provide feedback on these responses.         Experience       With pre-class work, Facilitators should:         No task knowledge, no fundamentals.       Ask the Soldiers questions about the reading such as how they would application across a range of contexts         Preliminary task knowledge, understands fundamentals.       Provide more complex examples as the Soldiers show proficiency in application.				
<ul> <li>Group Size</li> <li>1:16 or less</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Familiar with task</li> </ul>				
Group Size       attempted solutions, discuss the intended outcomes, discuss that althout contexts differed the knowledge and skills to perform successfully in the were the same         1:17 or greater       5. Ask probing questions requiring Soldiers to explain their responses shout provide feedback on these responses.         Experience       With pre-class work, Facilitators should:         • New to task       Ask the Soldiers questions about the reading such as how they would apprint information across a range of contexts         • Familiar with task       Provide more complex examples as the Soldiers show proficiency in apprilearned information.	eir			
<ul> <li>Ask probing questions requiring Soldiers to explain their responses show provide feedback on these responses.</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	gh the			
Experience       Image: Construction of the section of t				
Experience     With pre-class work, Facilitators should:         Ask the Soldiers questions about the reading such as how they would ap         information across a range of contexts         Preliminary task knowledge, understands fundamentals.         Provide more complex examples as the Soldiers show proficiency in app         learned information.	d and			
<ul> <li>New to task         No task knowledge, no fundamentals.         • Ask the Soldiers questions about the reading such as how they would ap information across a range of contexts         • Familiar with task preliminary task knowledge, understands fundamentals.         • Ask the Soldiers questions about the reading such as how they would ap information across a range of contexts         • Provide more complex examples as the Soldiers show proficiency in app learned information.     </li> </ul>				
Familiar with task     Preliminary task knowledge, understands fundamentals.     information across a range of contexts     Provide more complex examples as the Soldiers show proficiency in applearned information.	oly the			
Preliminary task knowledge, understands fundamentals. learned information.	25002940 444982			
	ying the			
Definitive task knowledge, executes the fundamentals.  Definitive task knowledge, executes the fundamentals.  Provide additional cues, prompts, procedural information, memory jogge				
Other Verbs at the same Cognitive just-in-time information, to determine whether the Soldiers can reach a h understanding of the material.	gher level of			
outer verbe di the outtre obgitave				
Level Practical Exercise Considerations	~			
Access Debrief Perform	100			
Administer Demonstrate Prepare Sequence of Instruction Example	$\sim$			
Annotate Employ Present Apply Ensure Process Just-in-Time Information Examples				

Home About Tool	Physical Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admir
Task Variables	Clear Recommended Methods and Sequence of Instruction
Action Verb	Key Points for Success
Calculate	
Performance Level	Facilitator Considerations V
C3 - Applying	Practical Exercise Considerations
Definition	Without pre-class work:
To ascertain by exercise of practical judgment or processes.	<ul> <li>Pollowing the presentation of more detailed information, a second PE should be</li> </ul>
Group Size	<ul> <li>conducted that requires the Soldiers to apply this information to a novel context</li> <li>The context of the second PE should have the same objectives as the first PE;</li> </ul>
1:16 or less	<ul> <li>however, the conditions and surface elements should differ.</li> <li>With a longer timeframe, multiple PEs could be conducted with varied contexts so</li> </ul>
0 1:17 or greater	that the Soldiers can practice applying their knowledge and skills across a range of possible plausible situations.
Experience	<ul> <li>The Soldiers' abilities to apply the knowledge and skills across differing contexts should be assessed.</li> </ul>
New to task	With pre-class work:
No task knowledge, no fundamentals.	Practical exercises are used.
Preliminary task knowledge, understands fund	amentals.  • As additional procedural information is provided, backwards fading exercises may be used to assess Soldiers' proficiency with the new material.
Proficient with task     Definitive task knowledge, executes the funda	Soldiers are assessed on whether they can achieve certain proficiency levels with and without instructor cues.
Other Verbs at the same C	Dgnitive Sequence of Instruction Example
Level	Just-in-Time Information Examples
	erform Backwards Fading Example
Administer Demonstrate F	epare epare



### 🗲 🛞 🙆 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Calculate&type=2&value=3&v 🗸 🖉 🦉 Instructional Methods Tool

- C - X

#### 合 ★ 章

### Eile Edit View Favorites Tools Help C3 - Applying

Definition

processes. **Group Size**  Practical Exercise Considerations

#### Sequence of Instruction Example

#### Just-in-Time Information Examples

The Facilitator provides more detailed information regarding the specific material and 🛛 🚔 information to be learned

0	1:16 or less
0	1:17 or greater

### Experience

 New to task No task knowledge, no fundamentals.

Familiar with task Preliminary task knowledge, understands fundamentals.

To ascertain by exercise of practical judgment or mathematical

Proficient with task Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Cognitive Level

Debrief Access Perform Administer Demonstrate Prepare Annotate Employ Present Apply Ensure Process Brief Estimate Produce Calculate Facilitate React Challenge Implement Read Change Inform Refine Communicate Register Interpret Compute Investigate Report Conduct Lead Request Confirm Manage Review Control Order Translate

Use	Formula	Relative Effectiveness (RE)				
Internal Charges	P=D <sup>2</sup> /250	factor examples	1 22			
Abatis	P=D <sup>2</sup> /50	Explosive	R.E.			
External Charges	P=D2/40	Black powder	0.55			
P = Pounds of TNT		Composition C-4	1.34			
D = The least dimer	nsion in inches	Gelignite	1.60			
		Hexogen (RDX)	1.60			
How to measure the		Nitroglycerin	1.54			
circumference of a ti		Nobel's Dynamite	1.25			
Use engineer tape, c of cord (e.g. 550 cord		Octol	1.54			
Wrap the tape/cord		Penthrite (PETN)	1.66			
Mark the tape/cord		Semtex	1.35			
one complete circle		Trinitrotoluene (TNT)	1,00			
Measure the length						
against your M16 (le 40-inches) to get tot		Bore Holes				
start point to marke	d point	Use one bore hole to place the explo sives in trees up to 18-inches in diameter.				
This is the circumfere	ence of the tree					
How to determine the diameter of the tree	ne	For larger trees use two bore holes, drilled at right angles to each other without intersecting, but as close				
Diameter=Circumfe	rence/π	together as possible				
Pi (π) = 3.141592653	59 or 3.14					

Memory Joggers Examples

Favorites Iook	: <u>H</u> elp								
Froup Size			Backwards Fading Example						
) 1:16 or less									
1:17 or great	er		Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials.						
Experience			Used to:						
Familiar with			Teach tasks to individuals who have no prior knowledge of the task     Teach tasks that are cumulative in nature (relationship between steps)     Move individuals from worked examples to problem solving Key points for success:     Ongoing evaluation of the Soldier's performance is required.     The Facilitator determines when to remove instructional support based on the Soldier's performance.						
	k knowledge, understand	ls fundamentals,							
Proficient wi Definitive task k	th task knowledge, executes the	fundamentals.							
Other Verb	os at the sam	e Coanitive	Techniques include:						
Level	Debrief Demonstrate Employ	Perform Prepare Present	<ul> <li>Together, the Facilitator and Soldier perform a series of trials (attempts) that the facilitator and Soldier perform together.</li> <li>In early learning trials, both the Soldier and the Facilitator are involved in performing task steps.</li> <li>In later learning trials, more and more of the task steps are performed by the Soldier alone.</li> </ul>						
Apply Ensure Process Brief Estimate Produce Calculate Facilitate React		e Facilitate Produce		ber of packages ald take to cut a ing an internal charge		BACKWARDS FADING	FACILITATOR FEEDBACK		
Challenge	Implement	Read Refine		Trials	F	irst the facilitator			
hange Iommunicate	Inform Interpret	Register	STEPS	0 0 1 2 3 4 5 6		lemonstrates the task rom beginning to end			
Compute Conduct Confirm Control	Investigate Lead Manage	Report Request Review	Step 1. Obtain critical data. • One tree = one charge • D=30"	æ	W T	vhile the Soldiers watch. Trial 1 - Begins as a ruided demonstration. In	What is the critical data? • Number of trees to cut • Diameter of the trees		
	Order	Translate	Step 2. Calculate the weight of a single charge of TNT using the appropriate demolition formula. • Internal cutting charge • P = (0 * D) / 250 • P = (30*30) / 250 • P = (900) / 250	ILITATO	o w tit tit tit T	ther words, each Soldier vatches and mimics the ask steps performed by he facilitator. There are to 'Soldier only' steps in his trial. Trial 2 - The facilitator ind the Soldiers perform	What are the three formulas used for timber-cutting? • Internal • External • Abatis		

4 Eile

P = 3.6 pounds of TNT

Step 3. Divide the quantity of explosive by the Relative Effectiveness (RE) factor.

explosive • 3.6/1.34 = 2.68 nounds of

P/RE = pounds of

and the Soldiers perform the first five task steps

and the Soldiers perform the last task step alone.

Trial 3 - The facilitator

and the Soldiers perform the first four task steps

Why do we first use a

formula for TNT and then divide by the RE

of the explosive we are

issued? Where do we find RF V

U

A

Edit View Favorites Tools Help							
Control Order	of a single charge of TNT using the appropriate demolition formula. • Internal cutting charge • P= (D * D) / 250 • P= (30° 30) / 250 • P= (900) / 250 • P= 3.6 pounds of TNT	ACILITATO		watches and mimics the watches and mimics the task steps performed by the facilitator. There are no 'Soldier only' steps in this trial. <b>Trial 2</b> - The facilitator and the Soldiers perform the first five task steps	What are the three formulas used for timber-cutting? • Internal • External • Abatis		
		Step 3. Divide the quantity of explosive by the Relative Effectiveness (RE) factor. • P/RE = pounds of explosive • 3.6/1.34 = 2.68 pounds of Composition C4.	FA		and the Soldiers perform the last task step alone. Trial 3 - The facilitator and the Soldiers perform the first four task steps and the Soldiers perform the last two task steps	Why do we first use a formula for TNT and then divide by the RE of the explosive we are issued? Where do we find RE factors?	
	Step 4. Determine the number of packages of explosive for a single charge by dividing the individual charge weight by the standard package weight of the chosen explosive. Round this result to the next higher, whole package.         • P/Package Weight = number of packages (round-up to next whole package)         • P/Pkg Wt = 2.68/1.25 = 2.14, round up to 3 packages of C4			alone. Trial 4 - The facilitator and the Soldiers perform the first three task steps and the Soldiers perform the last three task steps alone. Trial 5 - The facilitator and the Soldiers perform the first two task steps and the Soldiers perform the last four task steps alone. Trial 6 - The facilitator	Where do we find the package weights for different explosives?		
		Step 5. Determine the number of charges based on the targets. • 1 tree = 1 charge		SS	and the Soldiers perform the first task step and the Soldiers perform the last five task steps alone.	What is the number of charges required if we have 7 similar sized trees?	
		Step 6. Determine the total quantity of explosives required to destroy the target by multiplying the number of charges (Step 5) by the number of packages required per charge (Step 4). • 3 packages per target * 1 target = 3 packages of Composition C4		SOLDIER	Trial 7 - The Soldiers complete the task by themselves. You can chunk multiple steps, i.e. 1+2, 3+4, 5+6, to shorten the process.	When would we use one bore hole? When would we use two bore holes? How would we place two bore holes?	
		Memory Joggers Examp	lon				

	Help		-											
Definition			Sequence of Instruction Example											
To ascertain by exe processes.	ercise of practical judgm	nent or mathematical	Just-in-Time	Infor	matio	n Exam	ples							~
Group Size			Backwards Fading Example											
1:16 or less														
1:17 or great	er		Memory Jog	gers	Exam	ples								~
Experience			Memory jogge	ers are	design	ed to red	luce th	ne Sol	dier's (	ognitive	load b	oy prov	iding mad	ro 🚔
New to task			level reminder	s.										
No task knowled	dge, no fundamentals.		Formula		Use									
O Familiar with		ana na mana an	P=D <sup>2</sup> /250		Inter	rnal Cha	arges	8						
1.00	k knowledge, understand	ds fundamentals.	P=D <sup>2</sup> /50		Abat	tis								
O Proficient with Definitive task k	tn task <i>mowledge, executes the</i>	fundamentals	P=D2/40		Exte	rnal Ch	arges	5						
	os at the sam		P = Pound D = The lea			on in ine	thes							
Level			Internal Ch	arges			Ał	batis				Exter	rnal Cha	rges
Access Administer Annotate Apply Brief Calculate Challenge	Debrief Demonstrate Employ Ensure Estimate Facilitate Implement	Perform Prepare Present Process Produce React Read	Tam	Explo P=E	sive 5 <sup>2</sup> /250	1.5m (5			least	²/50 re D is th dimensi ches	e	Fall		
Change Communicate Compute Conduct	Inform Interpret Investigate	Refine Register Report	Charge Type		(1.25					osition ( Timbe			d (inches)	1
Conduct	Lead Manage	Request Review		6	8	10	12	15	18	21	24	27 3	30 33	36
Control	Order	Translate	Internal	1	1	1	1	1	1	2	2	2	3 3	4
			External	1	1	2	3	4	5	7	9	11 1	14 17	20
								-	1220	211	7	9 1		

## Appendix **R**

Military Task Examples C2+C3 – Understanding and Applying / Large Group / New and Familiar with Task

Home About Tool F Task Variables Action Verb	hysical Verbs Cognitive Verbs	Affective Domain Methods of Instruction Crosswalk Admin					
	Clear						
Action Verb							
	Recomme	ended Methods and Sequence of Instruction					
Calculate	Direct Instr	uction and Experiential Learning 🚔					
Performance Level	With pre-c						
C3 - Applying		<ul> <li>Start with a review of the homework and relate how it applies across a range of contexts</li> </ul>					
Definition	Without pr	Without pre-class work					
To ascertain by exercise of practical judgment or m processes.	ithematical new	Use advanced organizers to relate prior knowledge to current class work, or present new information with guided notes     Choose the method of instruction based on the "Time of Instruction" for the ELO.					
Group Size	Time of						
<ul> <li>1:10 or greater</li> </ul>	2 hours	Presentation with guided notes to large group, followed by shorter PE in smaller groups, followed by a large group discussion					
<ul> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundari</li> </ul>	4-8 hours	Presentation with guided notes followed by a longer PE in smaller groups, then a large group discussion. If a full day, then additional information could be provided followed by a second PE in small groups and a large group discussion.					
Proficient with task Definitive task knowledge, executes the fundamental	Key Point	s for Success					
-	Facilitato	r Considerations					
Other Verbs at the same Co	gnitive	Practical Exercise Considerations					
Level	Guided No	otes					
	orm Just-in-Ti	me Information Examples					
	sent	of Instruction Example					
	cess Sequence	of Instruction Example					

Action Verb			necommendec	Methods and Sequence o				
Calculate			Key Points for	Success				
	aval		Basic knov	vledge, i.e. remembering facts,	is a prerequisite for understanding and 💂			
Performance Level C3 - Applying			sk knowledge and procedures					
			<ul> <li>PEs as the first activity are too difficult to manage with a large group.</li> <li>Facilitator feedback is essential.</li> </ul>					
Definition To ascertain by exercise of practical judgment or mathematical processes.			With pre-class work:					
			Provide homework such as read aheads, interactive multimedia instruction,					
Group Size			100 (0.0 (0.0 (0.0 (0.0 (0.0 (0.0 (0.0 (	on slides, Army doctrinal manu a review of the homework and	ais and pampniets. relate how it applies across a range of			
1:16 or less			<ul> <li>contexts.</li> <li>Use face-to-face time in the classroom to build on existing or learned knowledge.</li> </ul>					
<ul> <li>1:17 or great</li> </ul>	er		<ul> <li>Soldiers apply the information to their own experiences and then discuss these experiences in class.</li> </ul>					
Experience			Without pre-class work:					
<ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>		100000000000000000000000000000000000000	Use advanced organizers to relate prior knowledge to current class work or present					
		<ul> <li>new information with guided notes.</li> <li>Facilitators should develop questions based on the desired level of performance.</li> <li>Use the key words in the table below as guides to structure questions and use task</li> </ul>						
							>	
O Proficient with		and a second	r		1			
Definitive task k	nowledge, executes the		Cognitive Level	Question Key Words	Military Task: Apply the Military Decision Making Process (MDMP) Task Example Questions/Tasks			
Definitive task k Other Verb			Cognitive Level	Question Key Words	Making Process (MDMP) Task Example Questions/Tasks • Compare and Contrast the			
Definitive task k	nowledge, executes the		Cognitive Level	Question Key Words	Making Process (MDMP) Task Example Questions/Tasks			
Definitive task k Other Verb	nowledge, executes the		Cognitive Level	Question Key Words Relate, Infer, Compare, Contrast, Summarize,	Making Process (MDMP) Task Example Questions/Tasks Compare and Contrast the similarities and differences between plans and orders. Explain the purpose of the running			
Definitive task & Other Verb Level	nowledge, executes the	e Cognitive		Relate, Infer, Compare,	Making Process (MDMP) Task Example Questions/Tasks Compare and Contrast the similarities and differences between plans and orders.			
Definitive task & Other Verb Level Access	nowledge, executes the os at the sam	e Cognitive	C2 -	Relate, Infer, Compare, Contrast, Summarize,	Making Process (MDMP) Task Example Questions/Tasks         • Compare and Contrast the similarities and differences between plans and orders.         • Explain the purpose of the running estimate.         • Summarize higher headquarters concept of the operation.			
Definitive task & Other Verb Level Access Administer	nowledge, executes the os at the sam Debrief Demonstrate	e Cognitive Perform Prepare Present Process	C2 -	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain,	Making Process (MDMP) Task Example Questions/Tasks         • Compare and Contrast the similarities and differences between plans and orders.         • Explain the purpose of the running estimate.         • Summarize higher headquarters concept of the operation.         • Restate the commander's intent in			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief	Debrief Demonstrate Employ Ensure Estimate	e Cognitive Perform Prepare Present Process Produce	C2 -	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain,	Making Process (MDMP) Task Example Questions/Tasks         • Compare and Contrast the similarities and differences between plans and orders.         • Explain the purpose of the running estimate.         • Summarize higher headquarters concept of the operation.			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief Calculate	Debrief Demonstrate Employ Ensure Facilitate	e Cognitive Perform Prepare Present Process Produce React	C2 -	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain,	Making Process (MDMP) Task Example Questions/Tasks         • Compare and Contrast the similarities and differences between plans and orders.         • Explain the purpose of the running estimate.         • Summarize higher headquarters concept of the operation.         • Restate the commander's intent in			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief Calculate Challenge	Debrief Debrief Demonstrate Employ Ensure Estimate Facilitate Implement	e Cognitive Perform Prepare Present Process Produce React Read	C2 -	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain,	Making Process (MDMP) Task Example Questions/Tasks         Compare and Contrast the similarities and differences between plans and orders.         Explain the purpose of the running estimate.         Summarize higher headquarters concept of the operation.         Restate the commander's intent in your own words.         Identify the specified, implied, and essential tasks.			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief Calculate Challenge Change	Debrief Debrief Demonstrate Employ Ensure Estimate Facilitate Implement Inform	e Cognitive Perform Prepare Present Process Produce React Read Refine	C2 -	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc.	Making Process (MDMP) Task Example Questions/Tasks         Compare and Contrast the similarities and differences between plans and orders.         Explain the purpose of the running estimate.         Summarize higher headquarters concept of the operation.         Restate the commander's intent in your own words.         Identify the specified, implied, and essential tasks.         Develop 2 COAs based on			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief Calculate Challenge Change Communicate	Debrief Debrief Demonstrate Employ Ensure Estimate Facilitate Implement Inform Interpret	e Cognitive Perform Prepare Present Process Produce React Read Refine Register	C2 -	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc. Develop, Identify, Construct,	Making Process (MDMP) Task Example Questions/Tasks         Compare and Contrast the similarities and differences between plans and orders.         Explain the purpose of the running estimate.         Summarize higher headquarters concept of the operation.         Restate the commander's intent in your own words.         Identify the specified, implied, and essential tasks.         Develop 2 COAs based on commander's guidance.			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief Calculate Challenge Change Communicate Compute	Debrief Debrief Demonstrate Employ Ensure Estimate Facilitate Implement Inform Interpret Investigate	e Cognitive Perform Prepare Present Process Produce React Read Refine Register Report	C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc.	Making Process (MDMP) Task Example Questions/Tasks            Compare and Contrast the similarities and differences between plans and orders.             Explain the purpose of the running estimate.             Summarize higher headquarters concept of the operation.             Restate the commander's intent in your own words.             Identify the specified, implied, and essential tasks.             Develop 2 COAs based on commander's guidance.             Construct tentative task			
Definitive task & Other Verb Level Access Administer Annotate Apply Brief Calculate Challenge Change Communicate	Debrief Debrief Demonstrate Employ Ensure Estimate Facilitate Implement Inform Interpret	e Cognitive Perform Prepare Present Process Produce React Read Refine Register	C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc. Develop, Identify, Construct,	Making Process (MDMP) Task Example Questions/Tasks         Compare and Contrast the similarities and differences between plans and orders.         Explain the purpose of the running estimate.         Summarize higher headquarters concept of the operation.         Restate the commander's intent in your own words.         Identify the specified, implied, and essential tasks.         Develop 2 COAs based on commander's guidance.			

## 😞 🕞 @:http://www.lcs.ts.northropgrumman.com/projects/imt/Tnames:Calculate&type=2&value=3& 🔹 🖉 🧟 Instructional Methods Tool 🛛 🗴

~

~

Control Order Translate	Facilitators can use the below se	quencing techniques to promote learning
	Question Sequencing	Techniques to Promote Learning
		g a number of questions at the same cognitive
	Example	Apply the MDMP Step 2 Mission Analysis
	Extending C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>
	Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>
	Narrow to broad – ask lower level spo general questions	ecific questions, followed by next higher level
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
	Broad C2-Understanding Then ask general questions at the next higher level.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
	Broad to narrow (funneling) – ask low level specific questions	w level general questions, followed by next higher
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?

View Fgvorites Iools Help	e=Calculate&type=2&value=3& - C 🧟 Instructional Methods Tool 🚿	
	<b>Narrow</b> C1-Remembering Ask specific questions at the lower level first	What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?     What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?     What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?
	Broad C2-Understanding Then ask general questions at the next higher level.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
	Broad to narrow (funneling) – ask le level specific questions	ow level general questions, followed by next higher
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
	<b>Narrow</b> C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>
	Facilitator Considerations	×
	Practical Exercise Considerations	•
	Guided Notes	~
	Just-in-Time Information Exampl	es 🗸 🗸
	Sequence of Instruction Example	×
	Advanced Organizers Example	~

Instructional Methods Tool	
Home About Tool Physical \	Verbs Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Task Variables	Clear Recommended Methods and Sequence of Instruction
Action Verb	
Calculate	Key Points for Success
Performance Level	Facilitator Considerations
C3 - Applying	Facilitators should:
Definition To ascertain by exercise of practical judgment or mathematic processes.	<ul> <li>Ask probing questions that require Soldiers to explain their logic and rationale for their application of the knowledge and information.</li> <li>Provide additional opportunities (PEs) for the Soldiers to understand and apply the information.</li> </ul>
Group Size	
O 1:16 or less	Practical Exercise Considerations
1:17 or greater	Guided Notes 🗸 🗸
Experience	Just-in-Time Information Examples
New to task No task knowledge, no fundamentals.	
Familiar with task	Sequence of Instruction Example
Preliminary task knowledge, understands fundamentals.	Advanced Organizers Example

### Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Escilitate	Deact

~

		ol	
]	Home About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Task Vari	ables	Clear	
Action Verb			Recommended Methods and Sequence of Instruction
Calculate		~	Key Points for Success
Performance	Level		Facilitator Considerations
C3 - Applying			Practical Exercise Considerations
processes. Group Size 1:16 or less 1:17 or great Experience New to task No task known Cask known Cask known Preliminary task Proficient w	ster c ledge, no fundamentals. ch task sk knowledge, understanc	ls fundamentals.	<ul> <li>Use advanced organizers to relate prior knowledge to current class work, or present new information with guided notes, and then break into groups for PEs</li> <li>After PEs, small groups can share outcomes of discussions with the larger group.</li> <li>Over multiple days, PEs could consist of <ul> <li>Homework</li> <li>A cycle of Facilitator led presentations with more complex examples,</li> <li>Exercises conducted with small groups followed by group presentations with probing questions that require Soldiers to explain their responses.</li> </ul> </li> <li>PEs could consist of <ul> <li>Application of knowledge across different contexts</li> <li>Discussion of case studies</li> <li>Examples relating to personal experiences</li> </ul> </li> <li>Assessments</li> <li>More rigorous assessments could be given so that Soldiers are required to demonstrate their proficiency levels.</li> </ul>
Other Ver	bs at the sam	e Cognitive	Guided Notes
Level			Just-in-Time Information Examples
Access	Debrief	Perform	Sequence of Instruction Example
Administer	Demonstrate Employ	Prepare Present	Advanced Organizers Example

#### <

~

V

#### File Edit View Favorites Tools Help

#### Definition

To ascertain by exercise of practical judgment or mathematical processes.

#### Group Size

1:16 or less

1:17 or greater

#### Experience

New to task

No task knowledge, no fundamentals.

 Familiar with task Preliminary task knowledge, understands fundamentals.

O Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Facilitate	React
Challenge	Implement	Read
Change	Inform	Refine
Communicate	Interpret	Register
Compute	Investigate	Report
Conduct	Lead	Request
Confirm	Manage	Review
Control	Order	Translate

be used whe	
guides.	en the 🚔
and rename some blanks. In the blanks we as and rer rases in your ame your file line. Outlines constructs. format ake to cut a	This at this name your document again.
mulas	-
D <sup>2</sup>	Internal Charges
D <sup>2</sup>	Abatis
	External Charges
losive	RE.
k Powder	0.55
	?
k F	100 million (100 m

		/imt/Tname=Calculate&type=2&v	lue: 380 🕶 🖉 🧑 Instructional Methods Tool 🛛 ×		
Other Verl	os at the sam	Ū.	file again. Then strategically replace more key we with blanks. This provides a moderate level of sc • Outlined notes: From the File menu, choose Save Eliminate most of the text so that you have a not used with Soldiers who have learned how to sum	affolding. as and rename your file e taking outline. Outlines	again.
Access	Debrief	Perform	Calculate timber-cutting charges using the six-step problem	lem solving format	
Administer Annotate Apply Brief	Demonstrate Employ Ensure Estimate	Prepare Present Process Produce	Task: Calculate the number of packages of Composition 0 30-inch diameter tree using an internal timber-cutting ch Steps		
Calculate Challenge	Facilitate Implement Inform	React Read Refine	Step 1. Obtain critical data, • One tree = •= 30"		
Change Communicate	Interpret	Register	Step 2. Calculate the weight of a single charge of	Formulas	
Compute	Investigate	Report	TNT using the appropriate demolition formula. <ul> <li>Internal cutting charge</li> </ul>	P=	Internal Charges
Conduct	Lead	Request	• P = (D * D) /	P=	Abatis
Confirm Control	Manage Order	Review Translate	P = (30*30) /     P = (900) /     P = pounds of TNT	P=	External Charges
			Step 3. Divide the quantity of explosive by the factor.	Explosive	R.E.
			P/RE = pounds of explosive	Black Powder Composition C4	0.55
			• 3.6/ = pounds of Composition C4.	Hexogen (RDX)	1.60
			Step 4. Determine the number of packages of explosive f         the individual charge by the standard pace         explosive. Round this result to the next higher, whole pace         • P/ = number of packages (round-up to next to packages)         • P/ = 2.68/1.25 = 2.14, round up to 3 packages         Step 5. Determine the number of charges based on the to 1 tree = charge         Step 6. Determine the total quantity of explosives require multiplying the number of (Step 5) by the num required per charge (Step 4).         • 3 packages per target * 1 target = 3 packages of Component	kage of the ch ckage. whole package) of C4 argets. ed to destroy the target by mber of	iosen
			Just-in-Time Information Examples		~
			Sequence of Instruction Example		~
			Advanced Organizers Example		~

#### 🔋 http://www.lcs.ts.**northropgrumman.com**/projects/imt/Tname=Calculate&type=2&value=3& 🍷 🕏 ← → Instructional Methods Tool

- 6 × 合 ★ 章

#### Eile Edit View Favorites Tools Help C3 - Applying

Definition

processes. **Group Size**  **Practical Exercise Considerations** 

**Guided Notes** 

#### Just-in-Time Information Examples

The Facilitator provides more detailed or additional information regarding the specific 🛛 🚔 material and information to be learned

0	1:16 or less
۲	1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

Familiar with task Preliminary task knowledge, understands fundamentals.

To ascertain by exercise of practical judgment or mathematical

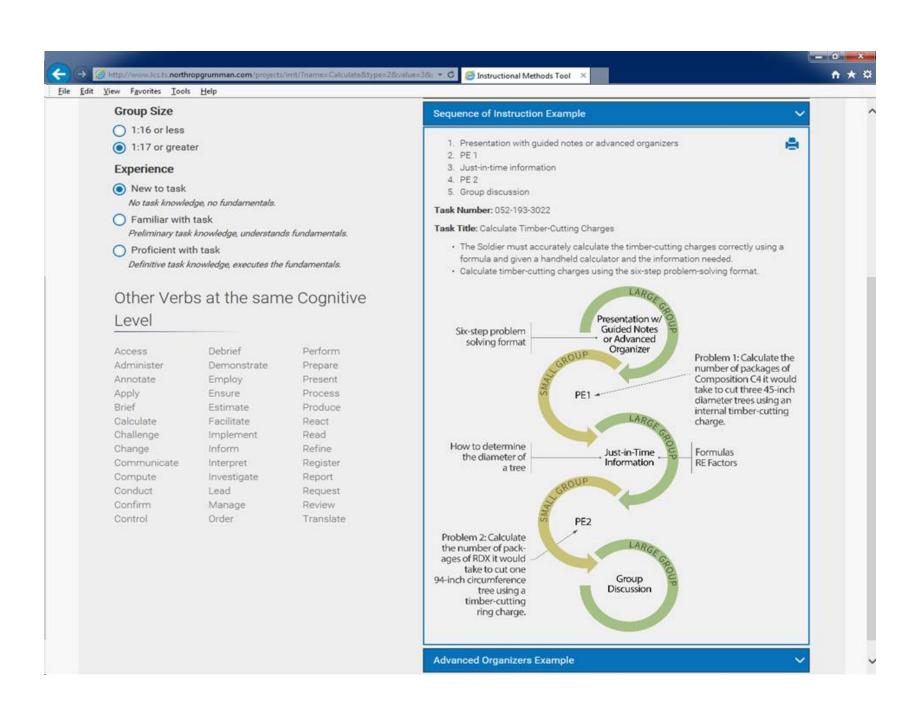
Proficient with task Definitive task knowledge, executes the fundamentals.

### Other Verbs at the same Cognitive Level

Debrief Perform Access Administer Demonstrate Prepare Annotate Employ Present Apply Ensure Process Brief Estimate Produce Calculate Facilitate React Challenge Implement Read Change Inform Refine Communicate Register Interpret Compute Investigate Report Conduct Lead Request Confirm Manage Review Control Order Translate

Use	Formula	Relative Effectiveness (RE)		
Internal Charges	P=D2/250	factor examples	1 22	
Abatis	P=D <sup>2</sup> /50	Explosive	R.E.	
External Charges	P=D2/40	Black powder	0.55	
P = Pounds of TNT		Composition C-4	1.34	
D = The least dimen	nsion in inches	Gelignite	1.60	
		Hexogen (RDX)	1.60	
How to measure the		Nitroglycerin	1.54	
circumference of a t	ree	Nobel's Dynamite	1.25	
Use engineer tape, o of cord (e.g. 550 cord		Octol	1.54	
Wrap the tape/cord		Penthrite (PETN)	1.66	
Mark the tape/cord		Semtex	1.35	
one complete circle		Trinitrotoluene (TNT)	1,00	
Measure the length				
against your M16 (le 40-inches) to get tot start point to marke	al length from	Bore Holes	the could	
This is the circumfer		Use one bore hole to place the explo sives in trees up to 18-inches in diameter.		
How to determine t diameter of the tree	he	For larger trees use two bore holes, drilled at right angles to each other without intersecting, but as close together as possible		
Diameter=Circumfe	rence/π			
Pi (π) = 3.141592653	59 or 3.14			

Advanced Organizers Example



#### ← → 🗿 http://www.ics.ts.northropgrumman.com/projects/imt/7name=:Calculate8:type=28:value=38a 🍷 🧿 Instructional Methods Tool

- 6 × 合 ★ 章

#### File Edit View Favorites Tools Help

- 1:16 or less
- 1:17 or greater

#### Experience

- New to task No task knowledge, no fundamentals.
- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Cognitive

### Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Facilitate	React
Challenge	Implement	Read
Change	Inform	Refine
Communicate	Interpret	Register
Compute	Investigate	Report
Conduct	Lead	Request
Confirm	Manage	Review
Control	Order	Translate

#### Advanced Organizers Example Advanced organizers are an effective strategy for activating a student's prior knowledge, 📇 focusing a student's interests, and setting goals for further instruction. This method of instruction refreshes (if necessary) and relates prior knowledge required to learn a new skill. Advanced organizers should: · Be composed of a short set of verbal or visual information · Be presented prior to learning · Contain no specific content from the preceding learning task · Generate the logical relationships among the elements in the preceding learning task · Influence the learners' encoding process Facilitators should: · Discuss how the Soldiers prior knowledge relates to the new task. · Provide refresher training on prior knowledge (if necessary). **Related Prior** Composite New Skill Knowledge C4 Characteristics

Knots

Calculate a **Timber-Cutting** Demolition

Charge

Time Fuse/ Det Cord

Characteristics

Initiating

Devices

### Appendix S

Military Task Examples C2+C3 – Understanding and Applying / Small Group / Familiar with Task

iew F <u>a</u> vorites <u>I</u> ool	ls <u>H</u> elp					
Γ	Home About To	ol Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin
-		_				
Task Varia	ables	Clear	Recommer	nded Methods and Se	quence of Instruction	~
Action Verb				1. 672-1 N. W1		-
Calculate		<b>~</b>	Choose the		sed on the "Time of Instruction" for the ELO.	
Performance	Level		Time of Instruction	Method of Instruction	1	
C3 - Applying			2 hours		nd pre-class work could be assigned so that t	
					e time is maximized by participating in group s, explanations of applications to novel conte	
Definition				applications of their ov		
To ascertain by ex processes.	ercise of practical judgm	ent or mathematical	4-8 hours	More complex example provided to Soldiers fo	es could be assigned. Immediate feedback s Illowing the PEs	hould be
Group Size						
1:16 or less			Key Points	for Success		~
O 1:17 or great	ter		Key Points	TOI SUCCESS		Ň
Experience			Facilitator	Considerations		~
New to task	edge, no fundamentals.		Practical E	xercise Consideration	19	~
Familiar with		de fundamentals	Other Cons	siderations		~
O Proficient w		ia rundamentais.	Case Studi	es		~
Definitive task	knowledge, executes the	fundamentals.	Case Study	/ Example		~
Other Ver	bs at the sam	e Cognitive	Sequence	of Instruction Example	e	~
Level			Just-in-Tim	e Information Examp	le	~
Access	Debrief	Perform	Backwards	Fading Example		~
Administer Annotate	Demonstrate Employ	Prepare Present				40
Apply	Ensure	Process	Memory Jo	oggers Examples		~
Brief	Estimate	Produce	Task Comp	olexity Example		~
Calculate	Facilitate	React				

ſ							
	Home About To	ol Physical Verbs	Cognitive Verbs	ffective Domain Meth	ods of Instruction Crosswalk Admir		
Task Vari	ables	Clear					
Action Verb				Methods and Sequence o	f Instruction		
Calculate		~	Key Points for :	Success	~		
Performance	Level				ations, read-aheads could all be		
C3 - Applying			homework		to be learned as assigned pre-class work or		
Definition To ascertain by exercise of practical judgment or mathematical processes. Group Size			<ul> <li>Homework also could consist of having the students apply the information to their own experiences, and then the students could discuss these experiences in class.</li> <li>One way to sequence the class is to have students first use specific examples from their prior experience or through case studies to further learn the specific knowledge and information of the concepts, then the students could practice this knowledge by</li> </ul>				
							2,23,1,22,1,27,1,9
			1:16 or less	1:16 or less			
O 1:17 or greater			<ul> <li>Use the key words in the table below as guides to structure questions and use task content to complete the question</li> </ul>				
Experience					Military Task: Apply the Military Decision		
New to task	: ledge, no fundamentals.		Cognitive Level	Question Key Words	Making Process (MDMP) Task Example Questions/Tasks		
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> </ul>			C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, estimate.	between plans and orders. • Explain the purpose of the running estimate. • Summarize higher headquarters		
Other Ver	bs at the sam	ne Cognitive		etc.	concept of the operation. <ul> <li>Restate the commander's intent in</li> </ul>		
Level					your own words.		
Access Debrief Perform Administer Demonstrate Prepare Annotate Employ Present	C3 - Applying	Develop, Identify, Construct,	<ul> <li>Identify the specified, implied, and essential tasks.</li> <li>Develop 2 COAs based on commander's guidance.</li> </ul>				

View Favorites Tools	Help			
Calculate	Facilitate	React		
Challenge	Implement	Read	<ul> <li>Facilitators can use the below se</li> </ul>	quencing techniques to promote learning
nange ommunicate	Inform Interpret	Refine Register	Question Sequencing	Techniques to Promote Learning
Compute	Investigate	Report		ng a number of questions at the same cognitive
Conduct	Lead	Request	level, before lifting the level of question	
onfirm	Manage	Review	Example	Apply the MDMP Step 2 Mission Analysis
Control	Order	Translate	<b>Extending</b> C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>
			Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>
			Narrow to broad – ask lower level spo general questions	ecific questions, followed by next higher level
			Example	Apply the MDMP Step 4 COA Analysis (War Game)
			Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
			Broad C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
			Broad to narrow (funneling) – ask log level specific questions	w level general questions, followed by next higher
			Example	Apply the MDMP Step 4 COA Analysis (War Game)
			Broad C1-Remembering	What are the five paragraphs of an OPORD?

- 0 -X

#### < 🛞 🎯 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Calculate&type=2&value=3& 🗸 🗸 🧭 Instructional Methods Tool 🛛 🗴

- 0 ×

~

~

<u>File Edit View Favorites Iools Help</u>

Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>
Narrow to broad – ask lower level spe general questions	ecific questions, followed by next higher level
Example	Apply the MDMP Step 4 COA Analysis (War Game)
<b>Narrow</b> C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
Broad C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
Broad to narrow (funneling) – ask lov level specific questions	v level general questions, followed by next higher
Example	Apply the MDMP Step 4 COA Analysis (War Game)
Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>

Definition       • Maximize the face-to-face time with activities that require the students to participate in group work, case study discussions, explanations of applications of the content to novel contexts, etc.         To ascertain by exercise of practical judgment or mathematical processes.       • Maximize the face-to-face time with activities that require the students to participate in group work, case study discussions, explanations of applications of the content to novel contexts, etc.         Group Size       • Provide more complex examples as the students show proficiency in applying the learned information.         • 1:16 or less       • Provide feedback to the students regarding whether their understanding and application of the material is accurate, realistic, practical, meets the standard, etc.         • 1:17 memory       • Provide additional cues, prompts, procedural information, memory joggers, etc. as	nstructiona	al Methods To				
Task Variables       Image: Second Seco			ol			
Task Variables       Image: Second Seco		Home About To	ol Dhysical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Action Verb       Recommended Methods and Sequence of Instruction         Action Verb       Key Points for Success         Calculate       Image: Comparison of the content of the content to participate in group work, case study discussions, explanations of applications of the content to novel contexts, etc.         Prefinition       Image: Comparison of the content to processes.         Group Size       Image: Comparison of the content to proceedure information.         Image: Comparison of the content to proceedure information of the material.       Provide feedback to the students regarding whether their understanding and application of the material.         Image: Comparison of the content to proceedure information.       Provide feedback to the students regarding whether their understanding and application of the material.         Image: Comparison of the content to procedural information, memory loggers, etc. as just intervention.       Provide feedback regarding whether the students con reach a higher level of understanding of the material.         Image: Comparison of the same Cognitive Level       Practical Exercise Considerations         Process       Debrief       Perform         Other Verbs at the same Cognitive Level       Sequence of Instruction Example         Access       Debrief       Perform         Administer       Debrief       Perform         Denoistrate       Prepare         Annotate       Prepare	1		en priystedi veros			
Calculate       Key Points for Success         Performance Level       Section         C3 - Applying       Facilitator Considerations         Definition       To ascertain by exercise of practical judgment or mathematical processes.         Group Size       • Maximize the face-to-face time with activities that require the students to participate in group work, case study discussions, explanations of applications of the content to novel contexts, etc.         Or ascertain by exercise of practical judgment or mathematical processes.       • Provide more complex examples as the students after require the students of applications of the content to novel contexts, etc.         O 1:15 or less       • 1:17 or greater         Experience       • New to task Not task Not task howledge, no fundamentals.         • Proficient with task Definitive task knowledge, executes the fundamentals.       • Practical Exercise Considerations         • Proficient with task Definitive task knowledge, executes the fundamentals.       • Other Considerations         Other Verbs at the same Cognitive Level       Case Studies         Access       Debrief       Perform         Access       Debrief       Perform         Access       Debrief       Perform         Access       Debrief       Perform         Administer       Demonstrate       Prepare         Anontate       Employ       Present <td>Task Varia</td> <td>ables</td> <td>Clear</td> <td>Recommended Methods and Sequence of Instruction</td>	Task Varia	ables	Clear	Recommended Methods and Sequence of Instruction		
Calculate       Facilitator Considerations         Performance Level       Second	Action Verb					
Performance Level         C3 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         I 1:16 or less         I 1:17 or greater         Experience         New to task Nowledge, no fundamentals.         Perfinitiar with task Preliminary task knowledge, understands fundamentals.         Other Verbs at the same Cognitive Level         Access       Debrief         Access       Debrief         Access       Debrief         Debrief       Performance Experience         Other Verbs at the same Cognitive Level       Case Study Example         Questions of the material is accurate method in the same constrate Prepare Annotate Employ on Freparent       Performation to determine whether the same Cognitive Level         Access       Debrief       Perform Administer         Debrief       Perform Perform Administer       Performation Example	Calculate		<b>~</b>	Key Points for Success		
Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> <li>1:17 or greater</li> <li>Provide additional cues, prompts, procedual information, memory jogers, etc. as just-intrine information to determine whether the students can reach a higher level of understanding on the material.           New to task No task Students that students to explain their responses and provide feedback regarding these explanations.               Other Verbs at the same Cognitive Level               Access             Debrief               Access             Debrief               Access             Debrief               Access             Debrief               Access             Debrief               Access             Debrief               Debrief             Preform               Administer             Derionstrate               Prepare               Access             Debrief               Perform             Preform               Access             Debrief             Preform</li></ul>	Performance	Level	s. A	Facilitator Considerations ~		
Definition         To ascertain by exercise of practical judgment or mathematical processes.         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         I 116 or less         I 117 or greater         Experience         New to task Nowledge, no fundamentals.         Proficient with task Definitive task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive Level         Access       Debrief         Access       Debrief         Perform         Administer       Demonstrate         Present	C3 - Applying			Facilitators should		
To ascertain by exercise of practical judgment or mathematical processes.       novel contexts, etc.         Group Size       Provide more complex examples as the students show proficiency in applying the learned information.         I 116 or less       Provide feedback to the students regarding whether their understanding and application of the material is accurate, realistic, practical, meets the standard, etc.         I 117 or greater       Provide additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information to determine whether the students can reach a higher level of understanding of the material.         New to task No task Nowledge, no fundamentals.       Practical Exercise Considerations         Proficient with task Preliminary task knowledge, executes the fundamentals.       Practical Exercise Considerations         Other Verbs at the same Cognitive Level       Case Studies         Access       Debrief       Perform Administer         Access       Debrief       Prepare         Anotate       Prepare         Anotate       Prepare	Definition					
Group Size <ul> <li>Provide feedback to the students regarding whether their understanding and application of the material is accurate, realistic, practical, meets the standard, etc.</li> <li>Provide additional cues, prompts, procedural information, memory joggers, etc. as just-intrime information to determine whether the students can reach a higher level of understanding of the material.</li> <li>Ask probing, rapid questions that ask students to explain their responses and provide feedback regarding these explanations.</li> </ul> New to task Nowledge, no fundamentals.              Practical Exercise Considerations            Proficient with task Preliminary task knowledge, understands fundamentals.              Practical Exercise Considerations            Other Verbs at the same Cognitive Level              Case Study Example            Access         Debrief         Perform           Administer         Demonstrate         Prepare           Annotate         Prepare              Just-in-Time Information Example	processes. Group Size			novel contexts, etc. <ul> <li>Provide more complex examples as the students show proficiency in applying the</li> </ul>		
<ul> <li>Provide additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information to determine whether the students can reach a higher level of understanding of the material.</li> <li>Ask probing, rapid questions that ask students to explain their responses and provide feedback regarding these explanations.</li> <li>Familiar with task <i>Preliminary task knowledge, understands fundamentals.</i></li> <li>Proficient with task <i>Definitive task knowledge, executes the fundamentals.</i></li> <li>Other Verbs at the same Cognitive Level</li> <li>Access Debrief Perform Administer Demonstrate Prepare Annotate Employ Present</li> </ul>						
<ul> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access</li> <li>Debrief</li> <li>Perform Administer</li> <li>Debrief</li> <li>Perform Administer</li> <li>Debrief</li> <li>Perform Administer</li> <li>Debrief</li> <li>Perform Annotate</li> <li>Employ</li> <li>Present</li> <li>Access</li> <li>Debrief</li> <li>Perform Annotate</li> <li>Present</li> </ul>						
Experience <ul> <li>Ask probing, rapid questions that ask students to explain their responses and provide feedback regarding these explanations.</li> <li>Familiar with task <i>No task knowledge, understands fundamentals.</i></li> <li>Proficient with task <i>Definitive task knowledge, executes the fundamentals.</i></li> </ul> <ul> <li>Practical Exercise Considerations</li> <li>Other Considerations</li> <li>Case Studies</li> </ul> Other Verbs at the same Cognitive Level              Case Study Example                Access             Debrief               Administer             Demonstrate               Prepare               Annotate             Employ				just-in-time information to determine whether the students can reach a higher level of		
New to task No task knowledge, no fundamentals.       feedback regarding these explanations.         Familiar with task Preliminary task knowledge, understands fundamentals.       Practical Exercise Considerations         Proficient with task Definitive task knowledge, executes the fundamentals.       Other Considerations         Other Verbs at the same Cognitive Level       Case Studies         Access Administer       Debrief         Perform Administer       Prepare         Annotate       Employ	Experience					
Preliminary task knowledge, understands fundamentals.       Practical Exercise Considerations         Proficient with task       Other Considerations         Definitive task knowledge, executes the fundamentals.       Other Considerations         Other Verbs at the same Cognitive       Case Studies         Level       Sequence of Instruction Example         Access       Debrief         Administer       Demonstrate         Prepare       Just-In-Time Information Example	$\mathbf{\overline{\mathbf{v}}}$					
O Proficient with task       Other Considerations         Definitive task knowledge, executes the fundamentals.       Other Considerations         Other Verbs at the same Cognitive       Case Studies         Level       Case Study Example         Access       Debrief       Perform         Administer       Demonstrate       Prepare         Annotate       Employ       Present			ls fundamentals.	Practical Exercise Considerations		
Other Verbs at the same Cognitive     Case Studies       Level     Case Study Example       Access     Debrief       Administer     Demonstrate       Prepare     Just-in-Time Information Example	O Proficient w	ith task		Other Considerations		
Level     Sequence of Instruction Example       Access     Debrief       Administer     Demonstrate       Prepare     Just-In-Time Information Example	Dennitive task	knowledge, executes the	rundamentais.	Case Studies		
Sequence of Instruction Example       Access     Debrief       Administer     Demonstrate       Prepare     Just-In-Time Information Example				Case Study Example		
Administer Demonstrate Prepare Just-In-Time Information Example	Level			Sequence of Instruction Example		
Annotate Employ Present				Just-In-Time Information Example		
	Brief	Estimate	Produce	Memory Joggers Examples		

motraot	ional Methods To		
	Home About To	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo
Task \	/ariables	Clear	
Action V	erb		Recommended Methods and Sequence of Instruction
Calcula	ta	~	Key Points for Success
	ance Level		Facilitator Considerations
C3 - Applyin			Practical Exercise Considerations
Definitio	n		
	n by exercise of practical judgm	nent or mathematical	Practical Exercises     Could be assigned in which the conditions and surface elements differ.     Could consist of troubleshooting faults, problem solving errors, conducting analog
Group Si	ze		procedures in case equipment fails (e.g., navigate aircraft without instruments), testing the students' expertise level by determining whether the declarative
1:16 o	less		knowledge and procedures can be applied in ambiguous, dynamic, and challenging
O 1:17 o	greater		<ul> <li>contexts.</li> <li>Backwards fading exercises may be used to assess students' proficiency with the</li> </ul>
Experien	ce		new material as additional procedural information is provided.
O New to	) task		Assessments
-	knowledge, no fundamentals.		<ul> <li>If appropriate, test whether the application of procedural skills have become automatic allowing the Soldier to advance to higher levels of understanding and</li> </ul>
	ar with task <i>ary task knowledge, understan</i> d	ds fundamentals.	complexity (e.g., whole systems thinking, strategic planning).
	ent with task		<ul> <li>More rigorous assessments could be given so that Soldiers are required to demonstrate their proficiency levels.</li> </ul>
Definitiv	e task knowledge, executes the	fundamentals.	
Other	Verbs at the sam	ne Cognitive	Other Considerations 🗸
Level	rondo de trio ourri	ie eognitive	Case Studies 🗸 🗸 🗸
Lever			Case Study Example
Access	Debrief	Perform	
Administe Annotate	r Demonstrate Employ	Prepare Present	Sequence of Instruction Example
Apply	Ensure	Process	Just-In-Time Information Example

Home       About Tool       Physical Verbs       Cognitive Verbs       Affective Domain       Methods of Instruction Crosswalk         Task Variables       Image: Common C	nods of Instruction Crosswalk A				nstructiona
Action Verb       Recommended Methods and Sequence of Instruction         Action Verb          Calculate          Performance Level          C3 - Applying       Practical Exercise Considerations         Definition          To ascertain by exercise of practical judgment or mathematical processes.       Practical Exercise Considerations         Go 1:16 or less          1:17 or greater          Experience          New to task          No task knowledge, no fundamentals.          Proficient with task          Perfinitive task knowledge, executes the fundamentals.          Other Verbs at the same Cognitive       Sequence of Instruction Example         Backwards Fading Example		Cognitive Verbs Affective Domain Methods of Instruc	ol Physical Verbs	Home About Too	
Action Verb       Key Points for Success         Calculate <ul> <li>Calculate</li> <li>Performance Level</li> <li>C3 - Applying</li> </ul> Facilitator Considerations <ul> <li>Facilitator Considerations</li> <li>Practical Exercise Considerations</li> <li>Other Considerations</li> <li>With a longer timeframe, then the facilitator needs to provide feedbe to the students on practice applying their knowledge and skills to perfor successfully in those situations were the same.</li> <li>With a longer timeframe, multiple PEs could be conducted with varied context the students can practice applying their knowledge and skills across are possible plausible situations.</li> <li>Case Studies</li> <li>Case Study Example</li> <li>Definitive task knowledge, executes the fundamentals.</li> <li>Definitive task knowledge, executes the funda</li></ul>			Clear	ables	Task Varia
Calculate       Image: Section 1         Performance Level       Practical Exercise Considerations         C3 - Applying       Practical Exercise Considerations         Definition       Other Considerations         To ascertain by exercise of practical judgment or mathematical processes.       Other Considerations         Group Size       If the class has a short timeframe, then the facilitator needs to provide feeds to the students on their attempted solutions, explain the intended outcomes, discuss that although the contexts differed the knowledge and skills to perfore successfully in those situations were the same.         I 1:17 or greater       With a longer timeframe, multiple PEs could be conducted with varied contexts differed the knowledge and skills across are possible plausible situations.         I 1:17 or greater       With a longer timeframe, multiple PEs could be conducted with varied contexts differed the knowledge and skills across are possible plausible situations.         I 1:17 or greater       Case Studies         Experience       Case Studies         New to task Nowledge, no fundamentals.       Case Study Example         Preliminary task knowledge, executes the fundamentals.       Case Study Example         Definitive task knowledge, executes the fundamentals.       Sequence of Instruction Example         Other Verbs at the same Cognitive       Backwards Fading Example	of Instruction	Recommended Methods and Sequence of Instruction			Action Verb
Performance Level         C3 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         I :16 or less         1 :16 or less         1 :17 or greater         Experience         New to task No task Nowledge, no fundamentals.         Proficient with task Definitive task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive		Key Points for Success	~		Calculate
Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         I 1:16 or less         1:17 or greater         Experience         New to task knowledge, no fundamentals.         Familiar with task Preliminary task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive		Facilitator Considerations		Level	Performance
To ascertain by exercise of practical judgment or mathematical processes.         Group Size <ul> <li>If the class has a short timeframe, then the facilitator needs to provide feedby to the students on their attempted solutions, explain the intended outcomes, discuss that although the contexts differed the knowledge and skills to perform successfully in those situations were the same.</li> <li>If the class has a short timeframe, then the facilitator needs to provide feedby to the students on their attempted solutions, explain the intended outcomes, discuss that although the contexts differed the knowledge and skills to perform successfully in those situations were the same.</li> <li>With a longer timeframe, multiple PEs could be conducted with varied context that the students can practice applying their knowledge and skills across a mossible plausible situations.</li> <li>Familiar with task <i>Preliminary task knowledge, executes the fundamentals.</i></li> <li>Proficient with task <i>Definitive task knowledge, executes the fundamentals.</i></li> <li>Other Verbs at the same Cognitive</li> </ul> Case Studies           Other Verbs at the same Cognitive         Backwards Fading Example		Practical Exercise Considerations			C3 - Applying
<ul> <li>processes.</li> <li>Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> </li> <li>Experience <ul> <li>New to task</li> <li>No task knowledge, no fundamentals.</li> <li>Familiar with task</li> <li>Proficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul> </li> <li>Other Verbs at the same Cognitive</li> <li>if the class has a short timeframe, then the facilitator needs to provide feedby to the students on their attempted solutions, explain the intended outcomes, discuss that although the contexts differed the knowledge and skills to perfore successfully in those situations were the same.</li> <li>With a longer timeframe, multiple PEs could be conducted with varied context that the students can practice applying their knowledge and skills across a mossible plausible situations.</li> </ul>		Other Considerations			Definition
<ul> <li>With a longer timeframe, multiple PEs could be conducted with varied context that the students can practice applying their knowledge and skills across a repossible plausible situations.</li> <li>New to task No task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive</li> <li>Backwards Fading Example</li> </ul>	ons, explain the intended outcomes, and	to the students on their attempted solutions, explain the	ent or mathematical	ercise of practical judgme	processes.
<ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive</li> <li>Backwards Fading Example</li> </ul>	ould be conducted with varied contexts so	<ul> <li>With a longer timeframe, multiple PEs could be conducte that the students can practice applying their knowledge a</li> </ul>		ter	0 1:17 or grea
Preliminary task knowledge, understands fundamentals.       Case Study Example         O Proficient with task       Sequence of Instruction Example         Definitive task knowledge, executes the fundamentals.       Just-in-Time Information Example         Other Verbs at the same Cognitive       Backwards Fading Example		Case Studies			New to task
O Proficient with task       Sequence of Instruction Example         Definitive task knowledge, executes the fundamentals.       Just-in-Time Information Example         Other Verbs at the same Cognitive       Backwards Fading Example		Case Study Example	le fundamentale		
Other Verbs at the same Cognitive Backwards Fading Example		Sequence of Instruction Example		ith task	O Proficient w
Backwards Fading Example		Just-in-Time Information Example	rundarmentars.	chowleage, executes the r	Denninve task
Level		Backwards Fading Example	e Cognitive	os at the same	
Memory Joggers Examples		Memory Joggers Examples			Level
Access         Debrief         Perform           Administer         Demonstrate         Prepare					

#### 🥥 🧭 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Calculate&type=2&value=3&: - C 🛛 🖉 Instructional Methods Tool >

## - 0 ×

#### File Edit View Favorites Tools Help

To ascertain by exercise of practical judgment or mathematical processes.

#### Group Size

- 1:16 or less
- 1:17 or greater

#### Experience

- New to task
   No task knowledge, no fundamentals.
- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Facilitate	React
Challenge	Implement	Read
Change	Inform	Refine
Communicate	Interpret	Register
Compute	Investigate	Report
Conduct	Lead	Request
Confirm	Manage	Review
Control	Order	Translate

#### **Case Studies**

Case studies can provide a basis for developing student's problem-solving and decision making skills. Case studies are based on real events, or are a construction of events which could reasonably take place. They tell a story, one involving issues or conflicts which need to be resolved—though most case studies do not have one obvious or clear solution. The information contained in a case study might be complex (including charts, graphs, and relevant historical background materials) or simple—a human story that illustrates a difficult situation requiring a decision. The Military Staff Ride is one form of case study.

A Contraction of the

#### The Military Staff Ride

- A field staff ride is a historical study of a campaign or battle that envisions a systematic preliminary study phase, an extensive field study phase on the actual historic site, and an integration phase to capture the lessons derived from each.
- A virtual staff ride (VSR) follows the same methodology as a field staff ride, but because restrictions preclude a trip to battlefield sites, the terrain is replicated in a virtual environment in the classroom.

#### The Military Staff Ride Purpose and Objectives

#### General Purpose:

· To further the professional development of U.S. Army leaders

#### Specific Objectives:

- Expose students to the dynamics of battle
- Show the human dimension the "face of battle"
- Provide case studies in the enduring principles of joint operations
- Provide case studies in combined arms operations
- Show the relationship between technology and doctrine
- Provide case studies in mission command and leadership
- Provide case studies in unit cohesion
- Show how sustainment affects operations
- Show effects of terrain upon plans
- · Provide analytical framework for battle analysis
- Encourage the study of US military history
- Kindle interest in US Army heritage
- Case studies can be found at http://usacac.army.mil/core-functions/militaryhistory/staff-rides

#### 🕒 🧭 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Calculate&type=2&value=3&v 🗸 🕻 🦉 Instructional Methods Tool 🛛 🗴

### - 0 ×

#### ff 🛧 🔅

#### Eile Edit View Favorites Iools Help C3 - Applying

#### Definition

To ascertain by exercise of practical judgment or mathematical processes.

#### Group Size

1:16 or less

1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

 Familiar with task Preliminary task knowledge, understands fundamentals.

Proficient with task
 Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Facilitate	React
Challenge	Implement	Read
Change	Inform	Refine
Communicate	Interpret	Register
Compute	Investigate	Report
Conduct	Lead	Request
Confirm	Manage	Review
Control	Order	Translate



On 16 December 1944 the German Army launched a counterattack designed to halt the Allied advance, regain lost ground, disrupt the Allied supply line, and seize the port of Antwerp. The counterattack was launched from the forests of Ardennes and succeeded in pushing Allied forces back and creating a salient (Bulge) in which some Allied forces were surrounded. Response to the counterattack was slow at first, with many Allied units retreating in the face of the Germans. However, Allied units regrouped and initiated actions to slow, and eventually stop, the German counterattack.



Student Outline

Review the events of 18 - 25 December focusing on the Allies attempts to delay the German Counterattack

Analyze the terrain in and around Ardennes from the IPB and MCOO perspective

Discuss/Review - Disposition and composition of Allied Engineer forces

Identify and discuss examples of the Engineer's use of obstacles (craters, abatis, bridge demolition) to delay the counterattack

Analyze the effectiveness of the delay in relation to the terrain and the use of obstacles

Resources

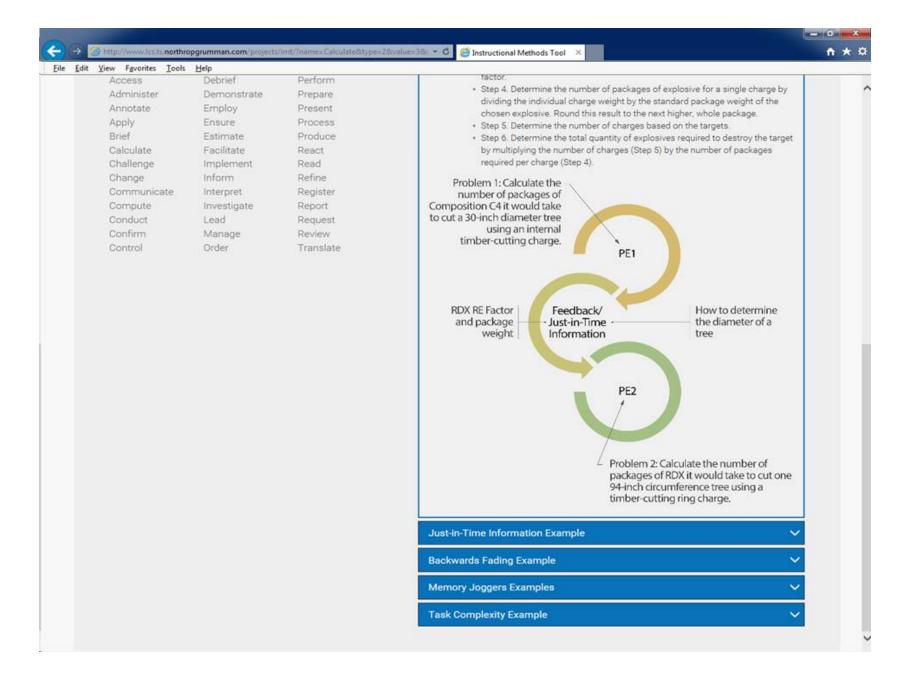
The Ardennes: The Battle of the Bulge -

http://www.history.army.mil/html/books/007/7-8-1/index.html Bastogne. The First Eight Days - http://www.history.army.mil/html/books/022/22-2-1/index.html Band of Brothers: Episode 6 - Bastogne

Sequence of Instruction Example

~

-							- 0 ×
(←) → 🛛	http://www.ics.ts.nortl	hropgrumman.com/projects/	imt/Tname=Calculate&type∞2	l&value:38: • C 🧭 In	structional Methods Tool $ imes$		n ★ ¤
Eile Edit	View Favorites 100						
U.S.ARWY)							
	[	Home About To	ol Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Log In
	Task Vari	ables	Clear	Recommen	ided Methods and Seq	uence of Instruction	$\sim$
	Action Verb			Key Pointe	for Success		~
	Calculate			Rey Points	for Success		
	Performance	Level		Facilitator (	Considerations		~
	C3 - Applying			Practical E	kercise Considerations		~
	Definition			Other Cons	iderations		~
		ercise of practical judgm	ent or mathematical				
	processes.			Case Studie	es		~
	Group Size			Case Study	Example		~
	1:16 or less			Provide and	f lost ustion Example		~
	1:17 or grea	ter		Sequence	of Instruction Example		
	Experience			5420350000	rs have complete the first		e
	O New to task				ators provide more detaile ation to be learned	d information regarding the specific materia	al and
	No task knowl	edge, no fundamentals.		0007030	rs complete a second PE	hat varies in context	
	Familiar wit	h task <i>ik knowledge, understand</i>	la fundamentala	Task Numbe	er: 052-193-3022		
	Proficient w	-	s runnannennans.	Task Title: C	alculate Timber-Cutting C	harges	
	$\smile$	knowledge, executes the	fundamentals.	1012000		culate the timber-cutting charges correctly u	ising a
				100 M 100		alculator and the information needed. s using the six-step problem-solving format.	
	Other Ver	bs at the sam	e Cognitive		Step 1. Obtain critical dat		
	Level		Ū		Step 2. Calculate the weig demolition formula.	ht of a single charge of TNT using the appr	opriate
				1.12		of explosive by the Relative Effectiveness (	RE)
	Access	Debrief	Perform		factor.		
	Administer	Demonstrate	Prepare			nber of packages of explosive for a single c rge weight by the standard package weight	
	Annotate	Employ	Present			this result to the next higher, whole package	
	Apply	Ensure	Process			nber of charges based on the targets.	
	Brief	Estimate	Produce			al quantity of explosives required to destroy	
	Calculate	Facilitate	React			r of charges (Step 5) by the number of pack	ages
	Challenge	Implement	Read		required per charge (Step	4).	



Group Size			Case Study Example			\$
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>	er		Sequence of Instruction	on Example		8
Experience			Just-in-Time Informati	on Example		\$
New to task No task knowle	<i>dge, no fundamentals.</i> task		The Facilitator provides m information to be learned.	nore detailed inform	ation regarding the specific mater	rial and  🛔
Preliminary task	knowledge, understand	ls fundamentals.	Use	Formula	Relative Effectiveness (RE) factor examples	NO
O Proficient wi	th task <i>nowledge, executes the</i>	fundamentala	Internal Charges	P=D <sup>2</sup> /250	Explosive	R.E.
Demnitive task k	nomeage, executes the	rundarnentaris.	Abatis	P=D <sup>2</sup> /50		0.55
Othor Vork	s at the sam	o Cognitivo	External Charges	P=D <sup>2</sup> /40		1.34
	is at the same	le cognitive	P = Pounds of TNT D = The least dimens	ion in Inchor	Black powder Composition C-4 Gelignite Hexogen (RDX) Nitroglycerin Nobel's Dynamite Octol Penthrite (PETN) Semtex	
Level			D = meleast dimens	ioninnenes		1.60
		2.77	100 0			1.60
Access Administer	Debrief Demonstrate	Perform	How to measure the circumference of a tree			1.54
Annotate	Employ	Prepare Present	Use engineer tape, or similar length		1.25	
Apply	Ensure	Process	of cord (e.g. 550 cord)			1.54
Brief	Estimate	Produce	Wrap the tape/cord an	round the tree		1.66
Calculate	Facilitate	React	Mark the tape/cord w	here it makes	Semtex	1.35
Challenge	Implement	Read	one complete circle a	round the tree	Trinitrotoluene (TNT)	1.00
Change Communicate	Inform Interpret	Refine Register	Measure the length of			
Compute	Investigate	Report	against your M16 (len 40-inches) to get total		Bore Holes	
Conduct	Lead	Request	start point to marked	point	Use one bore hole to place	
Confirm	Manage	Review	This is the circumferer	nce of the tree	sives in trees up to 18-inch	es in
Control	Order	Translate	How to determine the diameter of the tree Diameter=Circumfere		diameter. For larger trees use two bore holes, drilled at right angles to each other without intersecting, but as close together as possible	
			Pi (n) = 3.1415926535	9 or 3.14		4
			Backwards Fading Exa	mple		

(iew Favorites Tools	Help					
O New to task			Backwards Fading Exar	mple		
	lge, no fundamentals.					
<ul> <li>Familiar with <i>Preliminary task</i> </li> </ul>	task <i>knowledge, understand</i>	ls fundamentals.	Backwards fading (BF) is the support) across learning tri		noval of scaffolding (i.e., ir	nstructional
Proficient wit	h task		Used to:			
Definitive task k	nowledge, executes the	fundamentals.	Teach tasks to indiv	iduale who have	no prior knowledge of the t	taek
					ture (relationship between	
Other Verb	s at the sam	e Cognitive	<ul> <li>Move individuals fro</li> </ul>			
Level		U	Key points for success:			
Level			Ongoing evaluation	of the Coldiar's p	uformanco io consiliod	
	Debuiet	Destaura			move instructional suppor	rt based on Soldier
Access Administer	Debrief Demonstrate	Perform	performance			
Annotate	Employ	Prepare Present	Techniques include:			
Apply	Ensure	Process		stor and Coldier	erform a series of trials (a	ttomote)
Brief	Estimate	Produce			erform a series of thais (a r and the facilitator are inv	
Calculate	Facilitate	React	task steps.			
Challenge	Implement	Read	<ul> <li>In later learning trials</li> </ul>	s, more and more	of the task steps are perf	ormed by the Soldier
Change	Inform	Refine	alone.			
Communicate	Interpret	Register	TASK: Calculate the num	ber of packages		[
Compute	Investigate	Report	of Composition C4 it wo	uld take to cut a	BACKWARDS	FACILITATOR
Conduct	Lead	Request	30-inch diameter tree u timber-cutting		PADING	PEEDDACK
Confirm	Manage	Review		Trials	First the facilitator	
Control	Order	Translate	STEPS	om	demonstrates the task	
				0123456	7 from beginning to end while the Soldiers watch.	
			Step 1. Obtain critical data. • One tree = one charge		While the soluters watch.	What is the critical data • Number of trees to cut
			• D≈30 <sup>4</sup>	œ	Trial 1 - Begins as a guided demonstration. In	Diameter of the trees
			Step 2. Calculate the weight	0	other words, each Soldier	What are the three
			of a single charge of TNT	-	watches and mimics the task steps performed by	formulas used for
			using the appropriate demolition formula.	A	the facilitator. There are	timber-cutting? • Internal
			Internal cutting charge		no 'Soldier only' steps in this trial.	• External
			• P = (D * D) / 250 • P = (30*30) / 250		uis trai.	Abatis
			*P=(30'30)/230 *P=(900)/250		Trial 2 - The facilitator	
			• P = 3.6 pounds of TNT	ACILITATO	and the Soldiers perform the first five task steps	
			Step 3. Divide the quantity of	A -	and the Soldiers perform	Why do we first use a
			explosive by the Relative		the last task step alone.	formula for TNT and
			Effectiveness (RE) factor. • P/RE = pounds of		Trial 3 - The facilitator	then divide by the RE of the explosive we are
			explosive		and the Soldiers perform the first four task steps	issued?
			<ul> <li>3.6/1.34 = 2.68 pounds of Composition C4.</li> </ul>		and the Soldiers perform	Where do we find RE factors?

and the second second

				ñ *
• D=30"	2	Trial 1 - Begins as a guided demonstration. In	Diameter of the trees	
Step 2. Calculate the weight of a single charge of TNT using the appropriate demolition formula. • Internal cutting charge • $P = (0 * 0) / 250$ • $P = (30*30) / 250$ • $P = (900) / 250$ • $P = 3.6$ pounds of TNT	ACILITATO	other words, each Soldier watches and mimics the task steps performed by the facilitator. There are no 'Soldier only' steps in this trial. Trial 2 - The facilitator and the Soldiers perform the first five task steps and the Soldiers perform the last task step alone. Trial 3 - The facilitator and the Soldiers perform the first four task steps and the Soldiers perform the last two task steps alone. Trial 4 - The facilitator and the Soldiers perform the first three task steps and the Soldiers perform the last three task steps alone.	What are the three formulas used for timber-cutting? • Internal • External • Abatis	
Step 3. Divide the quantity of explosive by the Relative Effectiveness (RE) factor. • P/RE = pounds of explosive • 3.6/1.34 = 2.68 pounds of Composition C4.	F/	the last task step alone. Trial 3 - The facilitator and the Soldiers perform the first four task steps and the Soldiers perform	Why do we first use a formula for TNT and then divide by the RE of the explosive we are issued? Where do we find RE factors?	
<ul> <li>Step 4. Determine the number of packages of explosive for a single charge by dividing the individual charge weight by the standard package weight of the chosen explosive. Round this result to the next higher, whole package.</li> <li>P/Package Weight = number of packages (round-up to next whole package)</li> <li>P/Pkg Wt = 2.68/1.25 = 2.14, round up to 3 packages of C4</li> </ul>		alone. Trial 4 - The facilitator and the Soldiers perform the first three task steps and the Soldiers perform the last three task steps	Where do we find the package weights for different explosives?	
Step 5. Determine the number of charges based on the targets. • 1 tree = 1 charge	S	and the Soldiers perform the first task step and the Soldiers perform the last five task steps alone.	What is the number of charges required if we have 7 similar sized trees?	
Step 6. Determine the total quantity of explosives required to destroy the target by multiplying the number of charges (Step 5) by the number of packages required per charge (Step 4). • 3 packages of	SOLDIER	Trial 7 - The Soldiers complete the task by themselves. You can chunk multiple steps, i.e. 1+2, 3+4, 5+6, to shorten the process.	When would we use one bore hole? When would we use two bore holes? How would we place two bore holes?	
	<ul> <li>D=30"</li> <li>Step 2. Calculate the weight of a single charge of TNT using the appropriate demolition formula.</li> <li>Internal cutting charge</li> <li>P = (D * D) / 250</li> <li>P = (30" 30) / 250</li> <li>P = 3.6 pounds of TNT</li> <li>Step 3. Divide the quantity of explosive by the Relative Effectiveness (RE) factor.</li> <li>P/RE = pounds of composition C4.</li> <li>Step 4. Determine the number of packages of explosive for a single charge by dividing the individual charge weight by the standard packages of explosive for a single charge by dividing the individual charge weight by the standard package.</li> <li>P/Package Weight = number of packages.</li> <li>P/Package Weight = number of packages.</li> <li>P/Package Starge</li> <li>P/Package Starge</li> <li>P/Pkg Wt = 2.68/1.25 = 2.14, round up to 3 packages of C4</li> <li>Step 5. Determine the total quantity of explosives required to destroy the target by multiplying the number of charges (Step 5) by the number of packages</li> <li>required to destroy the target by multiplying the number of charges (Step 5) by the number of packages</li> <li>required to destroy the target by multiplying the number of charges (Step 5) by the number of packages</li> <li>required to destroy the target</li> <li>a packages per target * 1</li> </ul>	- D=30"      Step 2. Calculate the weight of a single charge of TNT using the appropriate demolition formula.     - Internal cutting charge · P=(D * D) / 250 · P= 3.6 pounds of TNT      Step 3. Divide the quantity of explosive by the Relative Effectiveness (RE) factor. · P/RE = pounds of explosive by the Relative Effectiveness (RE) factor. · P/RE = pounds of composition C4.      Step 4. Determine the number of packages of explosive for a single charge by dividing the individual charge weight by the standard package weight of the chosen explosive. Round this result to the next higher, whole package. · P/Package Weight = number of packages (round-up to next whole package) · P/Pik Wt = 2.68/1.25 = 2.14, round up to 3 packages of C4      Step 5. Determine the number of charges based on the targets. · I tree = 1 charge      Step 6. Determine the total quantity of explosives required to destroy the target by multiplying the number of charges (Step 5) by the number of packages required per charge (Step 4). · 3 packages per target * 1	<ul> <li>• D=30"</li> <li>Step 2. Calculate the weight of a single charge of TNT using the appropriate demonstration. In other words, each Soldier words, each Soldier words, each Soldier words, each Soldier of the facilitator. There are no "Soldier only" steps in this trial.</li> <li>• Internal cutting charge of P= (0° 0) / 250</li> <li>• P= (0° 30) / 250</li> <li>• Trial 2 - The facilitator and the Soldiers perform the last two task steps alone.</li> <li>• Trial 4 - The facilitator and the Soldiers perform the last three task steps alone.</li> <li>• PipAckage weight of the charges based on the soldiers perform the last flow task steps and the Soldiers perform the last flow task steps alone.</li> <li>• Trial 5 - The facilitator and the Soldiers perform the last flow task steps alone.</li> <li>• Trial 5 - The facilitator and the Soldiers perform the last flow task steps and the Soldiers perform the last flow task steps alone.</li> <li>• Trial 5 - The facilitator and the Soldiers perform the last flow task steps alone.</li> <li>• Trial 5 - The facilitator and the Soldiers perform the last flow task steps alone.</li> <li>• Trial 5 - Th</li></ul>	<ul> <li>-D=20°</li> <li>-Dimeter of the trees</li> <li>-Dimet</li></ul>

iew Favorites Tools Group Size	Пор		Case Study E	xamp	le									
1:16 or less			Channes	Inches		-	140							
1:17 or greate	er		Sequence of	Instru	iction	Examp	le							
Experience			Just-in-Time	Infor	natior	Exam	ple							
New to task	dge, no fundamentals.		Backwards Fa	ading	Exam	ple								5
Familiar with     Preliminary task	task <i>knowledge, understan</i>	ls fundamentals.	Memory Jogg	gers (	xamp	les								3
Proficient wit	th task nowledge, executes the	fundamentals.	Memory jogger level reminders		designe	ed to rec	luce th	e Sol	dier's c	ognitive lo	ad by p	roviding	) mac	ro 🚔
		0	Formula		Use									
Other Verb	is at the sam	le Cognitive	P=D <sup>2</sup> /250		Inter	nal Ch	arges							
Level			P=D <sup>2</sup> /50		Abati	s								
		2	P=D <sup>2</sup> /40		Exter	nal Ch	arges	č.						
Access Administer	Debrief Demonstrate	Perform Prepare	P = Pounds											
Annotate	Employ	Present	D=The leas	st din	nensio	n in in	thes							
Apply	Ensure	Process	1990 - 1980 -				355					25 S	0000	
Brief	Estimate	Produce	Internal Cha	rges			Ab	batis			E>	ternal	Chai	ges
Calculate	Facilitate	React	17	Explo	sive	i e	at here t	Links					12	D,
Challenge	Implement	Read		P=D	P/250	-	_ [i]		P=D	2/50	P=D	1/40 -	1	
Change	Inform	Refine	In the	1						Did	P=D	140	-	/
Communicate	Interpret	Register	(fting +	11		+	۶.,		least	re D is the dimension		1PR	2	
Compute	Investigate	Report	1155			1.5m (5	. ( <b>1</b> '		in ind	ches				/
Conduct	Lead	Request	V-P	1	~ ·	1.5111.0	11	, i	1		Fa			1
Confirm	Manage	Review	Tamp	(pnie		-	_	_	1	-				
Control	Order	Translate												
			Charge Type		(1.25	Pack -poun	ages d pac	of Co kage	ompo es) by	osition C4 Timber D	Requ Diame	ired ter (inc	hes)	
				6	8	10	12	15	18	21 24	27	30	33	36
			Internal	1	1	1	1	1	1	2 2	2	3	3	4
			External	1	1	2	3	4	5	7 9	11	14	17	20
			Abatis				1	-	-	- 7	9	11	13	16

### Appendix T

Military Task Examples C2+C3 – Understanding and Applying / Large Group / Familiar with Task

Instructiona	al Methods To	ol			
	Home About To	ol Physical Verbs	Cognitive Verbs Affe	ective Domain Methods of Instruction Crosswalk	Admin Lo
Task Varia	ables	Clear			
Action Verb			Recommended M	lethods and Sequence of Instruction	~
Calculate		~		d Experiential Learning	•
Performance	Level			of instruction based on the "Time of Instruction" for the ELO.	
C3 - Applying	Lever		Time of Meth Instruction	od of Instruction	
Definition			could	y, read aheads and pre-class work could be assigned. Initial class I be used to review pre-class work then assign PEs as small group Discuss/summarize as a large group.	
fo ascertain by ex processes.	ercise of practical judgm	ent or mathematical	4-8 hours More	complex examples could be assigned in small groups followed b	
Group Size			11100/07/07	ediate feedback; additional procedural information could be provi een the additional PEs along with larger group discussions.	ded in-
1:16 or less					
1:17 or great	ter		Key Points for Su	ccess	~
Experience			Facilitates Occurred		
New to task	edge, no fundamentals.		Facilitator Consid		
<ul> <li>Familiar with</li> </ul>	-		Practical Exercise	Considerations	~
	sk knowledge, understand	ls fundamentals.	Other Considerati	ons	~
O Proficient w Definitive task	ith task <i>knowledge, executes the</i>	fundamentals.	Case Studies		~
Other Verl	bs at the sam	e Cognitive	Case Study Exam	ple	~
Level			Sequence of Instr	uction Example	~
Access	Debrief	Perform	Just-in-Time Infor	mation Examples	~
Administer	Demonstrate	Prepare			

	Home About To	ol Physical Verbs	Cognitive Verbs /	Affective Domain Meth	ods of Instruction Crosswalk	Admin
Task Va	riables	Clear	Recommender	d Methods and Sequence of	of Instruction	~
Action Verb			0			100
Calculate		~	Key Points for	Success		×
Performance	ce Level			e group of Soldiers (200+), ad e desired level of proficiency	ditional Facilitators are required to	
C3 - Applying					tations, read aheads could all be as:	signed as
Definition					ed as assigned pre-class work or hor the Soldiers apply the information to	
	exercise of practical judgm	ant or mathematical		iences, and discuss these exp		a new
processes.	exercise of practical judgm	ient or mathematical			Soldiers first use specific example:	
o o'			N19400303030	199 <b>1</b> (* 68 8 G.), a Stallin (* 1993) (* 1997) (* 1997)	urther learn the specific knowledge diers could practice this knowledge	
Group Size			applying th		ige structures, rules, and procedures	
1:16 or le	35		contexts.	s should daualan quastions ha	sed on the desired level of performa	000
1:17 or greater				guides to structure questions and us		
Experience			content to	complete the question.		
<u> </u>			and the second second second	Military Task: Apply the Military D	ecision	
No task kno	wledge, no fundamentals.		Cognitive Level	Question Key Words	Making Process (MDMP) Task Ex Questions/Tasks	kample
Familiar v	vith task				Compare and Contrast the	
	task knowledge, understand	ds fundamentals.			similarities and differences	
Preliminary	with tank			Relate, Infer, Compare,	between plans and orders.	6
				relate, inter, compare,	Explain the purpose of the	running
	sk knowledge, executes the	fundamentals.	C2 -	Contrast, Summarize,	astimata	
O Proficient Definitive ta	sk knowledge, executes the		C2 - Understanding	Interpret, Restate, Explain,	estimate.  • Summarize higher headqua	arters
O Proficient Definitive ta				La Service Construction Content of the Content o	<ul> <li>Summarize higher headqua concept of the operation.</li> </ul>	
O Proficient Definitive ta	sk knowledge, executes the			Interpret, Restate, Explain,	<ul> <li>Summarize higher headqua</li> </ul>	
O Proficient Definitive ta	sk knowledge, executes the			Interpret, Restate, Explain,	Summarize higher headqua concept of the operation.     Restate the commander's i your own words.     Identify the specified, implie	ntent in
O Proficient Definitive ta Other Ve Level	sk knowledge, executes the erbs at the sam	e Cognitive		Interpret, Restate, Explain,	Summarize higher headqua concept of the operation.     Restate the commander's i your own words.     Identify the specified, impli- essential tasks.	ntent in
O Proficient Definitive ta Other Ve Level Access Administer	erbs at the sam	e Cognitive	Understanding	Interpret, Restate, Explain,	Summarize higher headqua concept of the operation.     Restate the commander's i your own words.     Identify the specified, impli- essential tasks.     Develop 2 COAs based on	ntent in
O Proficient Definitive ta Other Ve Level	erbs at the sam	Perform Prepare		Interpret, Restate, Explain, etc.	Summarize higher headqua concept of the operation.     Restate the commander's i your own words.     Identify the specified, impli- essential tasks.	ntent in
O Proficient Definitive ta Other Ve Level Access Administer Annotate	erbs at the sam Debrief Demonstrate Employ	Perform Prepare Present	Understanding	Interpret, Restate, Explain, etc.	Summarize higher headqua concept of the operation.     Restate the commander's i your own words.     Identify the specified, impli- essential tasks.     Develop 2 COAs based on commander's guidance.	ntent in ed, and

Home About Tool Physical V	erbs Cognitive Verbs	Affective Domain Met	nods of Instruction Crosswalk	Admir
Task Variables	Recommende	d Methods and Sequence	of Instruction	_
Action Verb	Kau Dalata fac			
Calculate	✓ Key Points for	Success		~
Performance Level		ge group of Soldiers (200+), ad ne desired level of proficiency	ditional Facilitators are required to	
C3 - Applying	<ul> <li>Video-tap</li> </ul>	ed lectures, PowerPoint preser	tations, read aheads could all be as: ed as assigned pre-class work or hor	
Definition	Homework	k also could consist of having	the Soldiers apply the information to	
To ascertain by exercise of practical judgment or mathematics processes.	• One way t their prior	experience or case studies to	e Soldiers first use specific example further learn the specific knowledge	and
Group Size			Idiers could practice this knowledge dge structures, rules, and procedures	
1:16 or less	contexts.	re should dayalan quastions ha	sed on the desired level of performa	000
1:17 or greater	<ul> <li>Use the k</li> </ul>	ey words in the table below as	guides to structure questions and us	
Experience	content to	complete the question.		
New to task No task knowledge, no fundamentals.	Cognitive Leve	Question Key Words	Military Task: Apply the Military D Making Process (MDMP) Task E Questions/Tasks	CONTRACTOR OF THE OWNER.
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive</li> </ul>	C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc.	Compare and Contrast the similarities and differences between plans and orders.     Explain the purpose of the estimate.     Summarize higher headqui concept of the operation.     Restate the commander's i	running arters
Level			your own words.	20000
Access Debrief Perform Administer Demonstrate Prepare Annotate Employ Present	C3 - Applying	Develop, Identify, Construct,	Identify the specified, impli- essential tasks.     Develop 2 COAs based on commander's guidance.	ed, and

Thttp://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Calculat	te&type=2&value=3& * C 🧉 Instructional Methods Tool >		
dit View Fgvorites Iools Help	instructional methods 1001		
	Broad C2-Understanding Then ask general questions at the next higher level.	Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.	
	Broad to narrow (funneling) – ask le level specific questions	ow level general questions, followed by next higher	
	Example	Apply the MDMP Step 4 COA Analysis (War Game)	
	Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?	
	Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>	
	Facilitator Considerations	~	
	Practical Exercise Consideration	s 🗸 🗸	
	Other Considerations	$\sim$	
	Case Studies	~	
	Case Study Example	~	
	Sequence of Instruction Example	· ~	
	Just-in-Time Information Exampl	es 🗸 🗸	
	Backwards Fading Example	~	
	Memory Joggers Examples	×	
	Task Complexity Example		

١					
	Home About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin		
Task Varia	ables	Clear			
Action Verb			Recommended Methods and Sequence of Instruction		
Calculate		~	Key Points for Success		
Performance	Level		Facilitator Considerations		
C3 - Applying			Facilitators should:		
Definition			Maximize the face-to-face time with activities that require the Soldiers to participate		
To ascertain by exercise of practical judgment or mathematical processes.		ent or mathematical	in group work, case study discussions, explanations of applications of the content to novel contexts, etc. • Provide more complex examples as the Soldiers show proficiency in applying the		
Group Size			learned information. <ul> <li>Provide feedback to the Soldiers regarding whether their understanding and</li> </ul>		
0 1:16 or less			application of the material is accurate, realistic, practical, meets the standard, etc.		
1:17 or great	ter		<ul> <li>Provide additional cues, prompts, procedural information, memory joggers, etc. as just-in-time information to determine whether the Soldiers can reach a higher level of</li> </ul>		
Experience			understanding of the material. <ul> <li>Ask probing, rapid questions that ask Soldiers to explain their responses and provide</li> </ul>		
New to task	edge, no fundamentals.		feedback regarding these explanations.		
Familiar with Preliminary tas	h task :k knowledge, understand	ls fundamentals.	Practical Exercise Considerations		
Proficient with task Definitive task knowledge, executes the fundamentals.			Other Considerations		
	-		Case Studies		
	bs at the sam	e Cognitive	Case Study Example		
Level			Sequence of Instruction Example		
Access Administer	Debrief Demonstrate	Perform Prepare	Just-In-Time Information Examples		
Annotate	Employ	Present			
Apply	Ensure	Process	Backwards Fading Example		
Brief	Estimate	Produce	Memory Joggers Examples		

Task Variables   Action Verb   Action Verb   Calculate   Performance Level   C3 - Applying   Definition   To ascertain by exercise of practical judgment or mathematical processes.   Group Size   0   1:16 or less   Recommended Methods and Sequence of Instruction Key Points for Success Facilitator Considerations Practical Exercise Considerations     • Case study discussions    • Croup work could consist of    • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could consist of   • Croup work could be assigned in which the conditions and surface elements differ.   • Practical exercises could consist of troubleshooting faults, problem solving errors.	ſ			
Action Verb       Recommended Methods and Sequence of Instruction         Action Verb       Image: Calculate       Image: Calculate		Home About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
Action Verb Calculate Performance Level C3 - Applying Definition To ascertain by exercise of practical judgment or mathematical processes. Group Size 11:1 or greater Experience New to task Notask howledge, and indamentals. Familiar with task Perliminary task knowledge, understands fundamentals. Familiar with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Cognitive Level	Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction
Calculate         Performance Level         C3 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         1:16 or less         1:17 or greater         Experience         New to task Nowledge, no fundamentals.         Pariliniar with task Perliminary task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive Level	Action Verb			
Performance Level         C3 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Group Size         1:16 or less         1:17 or greater         Experience         New to task Nowledge, no fundamentals.         Proficient with task Perliminary task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive Level	Calculate		~	Key Points for Success
<ul> <li>Definition <ul> <li>To ascertain by exercise of practical judgment or mathematical processes.</li> <li>Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> </li> <li>Experience <ul> <li>New to task Norwledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Familiar with task Definitive task knowledge, executes the fundamentals.</li> </ul> </li> <li>Other Verbs at the same Cognitive Level</li> </ul></li></ul>	Performance	Level	<b>-</b> 1	Facilitator Considerations
<ul> <li>For a scertain by exercise of practical judgment or mathematical processes.</li> <li>Group Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> </li> <li>Experience <ul> <li>New to task</li> <li>No task knowledge, no fundamentals.</li> </ul> </li> <li>Familiar with task <ul> <li>Preliminary task knowledge, understands fundamentals.</li> </ul> </li> <li>Familiar with task <ul> <li>Definitive task knowledge, executes the fundamentals.</li> </ul> </li> <li>Other Verbs at the same Cognitive <ul> <li>Level</li> </ul> </li> <li>Group Size</li> <li>Structure of the same cognitive Level</li> </ul>	C3 - Applying			Practical Exercise Considerations
	To ascertain by exercise of practical judgment or mathematical processes. Group Size 1:16 or less 1:17 or greater Experience New to task No task knowledge, no fundamentals. Familiar with task Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals.		ls fundamentals. fundamentals.	<ul> <li>Case study discussions</li> <li>Explanations of applications to novel contexts</li> <li>Applications to the Soldiers' own experiences</li> <li>Practical exercises could be assigned in which the conditions and surface elements differ.</li> <li>Practical exercises could consist of troubleshooting faults, problem solving errors, conducting analog procedures in case equipment fails (e.g., navigate plane without instruments), testing the Soldiers' expertise level by determining whether the declarative knowledge and procedures can be applied in ambiguous, dynamic, and challenging contexts.</li> <li>Backwards fading exercises may be used to assess Soldiers' proficiency with the new material as additional procedural information is provided.</li> <li>Assessments         <ul> <li>If appropriate, test whether the application of procedural skills has become automatic allowing the Soldier to advance to higher levels of understanding and complexity (e.g., whole systems thinking, strategic planning).</li> <li>More rigorous assessments could be given so that Soldiers are required to</li> </ul> </li> </ul>
Access Debrief Perform		Debrief	Perform	Other Considerations
	Annotate Apply Brief	Employ Ensure Estimate	Present Process Produce	Case Study Example

Instructional Met	hods To	ol		
Home	About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Variables		Clear		
Action Verb			Recommended Methods and Sequence of Instruction	
Calculate		~	Key Points for Success	
Performance Level			Facilitator Considerations	
C3 - Applying			Practical Exercise Considerations	
Definition			Other Considerations	
To ascertain by exercise of practical judgment or mathematical processes. Group Size 1:16 or less 3 1:17 or greater			<ul> <li>If the class has a short timeframe, then the Facilitator needs to provide feedback to the Soldiers on their attempted solutions, explain the intended outcomes, and</li> </ul>	
			<ul> <li>discuss that although the contexts differed the knowledge and skills to perform successfully in those situations were the same.</li> <li>With a longer timeframe, multiple PEs could be conducted with varied contexts so that the Soldiers can practice applying their knowledge and skills across a range of</li> </ul>	
Experience			possible plausible situations.	
New to task No task knowledge, no fu	ndamentals.		Case Studies ~	
Familiar with task Preliminary task knowled	ae. understan	ds fundamentals.	Case Study Example	
O Proficient with task			Sequence of Instruction Example	
Definitive task knowledge, executes the fundamentals.			Just-in-Time Information Examples	
Other Verbs at the same Cognitive		e Cognitive	Backwards Fading Example	
Level			Memory Joggers Examples	
Access Deb	rief	Perform	Task Complexity Example	

#### 🛞 🍈 http://www.ics.ts.northropgrumman.com/projects/init/Tname=Calculate&type=2&value=3& 🕆 🗸 🦉 Instructional Methods Tool 🛛 🗴

## × 0 =

#### <u>File Edit View Favorites Tools Help</u> processes.

#### Group Size

#### 1:16 or less

1:17 or greater

#### Experience

New to task
 No task knowledge, no fundamentals.

- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

### Other Verbs at the same Cognitive Level

#### Access Debrief Perform Administer Demonstrate Prepare Annotate Present Employ Apply Ensure Process Brief Estimate Produce Calculate Facilitate React Challenge Implement Read Change Inform Refine Communicate Interpret Register Compute Investigate Report Conduct Lead Request Confirm Manage Review Control Order Translate

#### **Case Studies**

Case studies can provide a basis for developing students' problem-solving and decision-

#### The Military Staff Ride

 A field staff ride is a historical study of a campaign or battle that envisions a systematic preliminary study phase, an extensive field study phase on the actual historic site, and an integration phase to capture the lessons derived from each.

 A virtual staff ride (VSR) follows the same methodology as a field staff ride, but because restrictions preclude a trip to battlefield sites, the terrain is replicated in a virtual environment in the classroom.

#### The Military Staff Ride Purpose and Objectives

#### General Purpose:

· To further the professional development of U.S. Army leaders

#### Specific Objectives:

- · Expose students to the dynamics of battle.
- Show the human dimension the "face of battle."
- · Provide case studies in the enduring principles of joint operations.
- Provide case studies in combined arms operations.
- · Show the relationship between technology and doctrine.
- · Provide case studies in mission command and leadership.
- · Provide case studies in unit cohesion.
- · Show how sustainment affects operations.
- · Show effects of terrain upon plans.
- · Provide analytical framework for battle analysis.
- · Encourage the study of US military history.
- Kindle interest in US Army heritage.

Case studies can be found at http://usacac.army.mil/core-functions/military-history/staff-

V

rides

#### 🥥 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Calculate&ttype=2&value=3&v 🛪 🗸 🎯 Instructional Methods Tool 🛛 🗴

## × 0 =

Eile Edit View Favorites Iools Help

÷

#### Group Size

- 1:16 or less
- 1:17 or greater

#### Experience

New to task
 No task knowledge, no fundamentals.

- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Facilitate	React
Challenge	Implement	Read
Change	Inform	Refine
Communicate	Interpret	Register
Compute	Investigate	Report
Conduct	Lead	Request
Confirm	Manage	Review
Control	Order	Translate

#### Case Study Example

Gase Siluules

#### The Ardennes: Battle of the Bulge

On 16 December 1944 the German Army launched a counterattack designed to halt the Allied advance, regain lost ground, disrupt the Allied supply line, and seize the port of Antwerp. The counterattack was launched from the forests of Ardennes and succeeded in pushing Allied forces back and creating a salient (Bulge) in which some Allied forces were surrounded. Response to the counterattack was slow at first, with many Allied units retreating in the face of the Germans. However, Allied units re-grouped and initiated actions to slow, and eventually stop, the German counterattack.



#### Student Outline:

Review the events of 18 – 25 December focusing on the Allies attempts to delay the German Counterattack Analyze the terrain in and around Ardennes from the IPB and MCOO perspective Discuss/Review – Disposition and composition of Allied Engineer forces Identify and discuss examples of the Engineer's use of obstacles (craters, abatis, bridge

demolition) to delay the counterattack

Analyze the effectiveness of the delay in relation to the terrain and the use of obstacles

#### Resources

The Ardennes: The Battle of the Bulge http://www.history.army.mil/html/books/007/7-8-1/index.html

Bastogne: The First Eight Days - http://www.history.army.mil/html/books/022/22-2-1/index.html

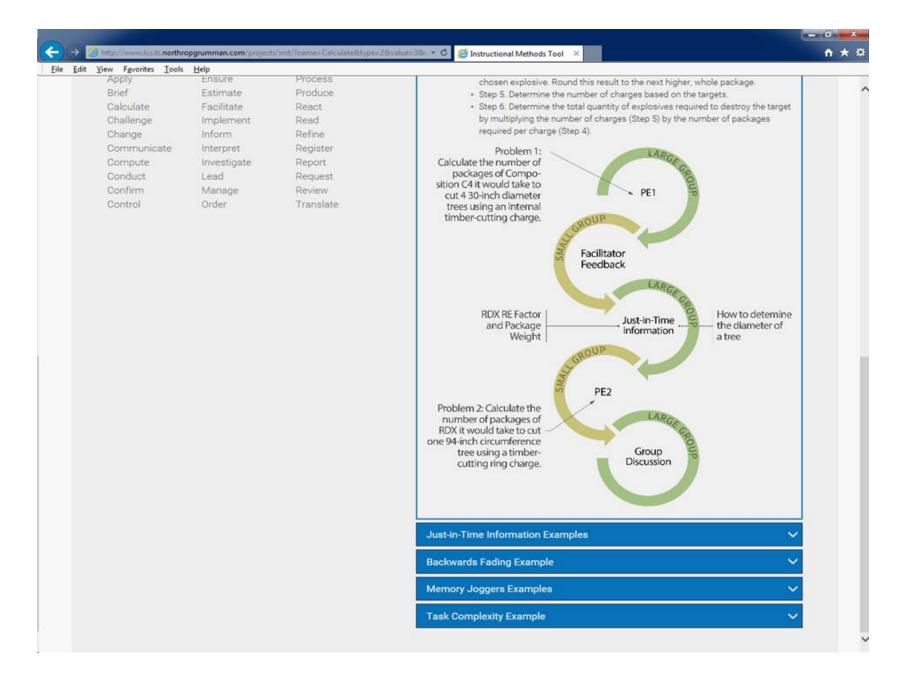
Band of Brothers: Episode 6 - Bastogne

Sequence of Instruction Example

Just-in-Time Information Examples

~

iew F <u>a</u> vorites <u>T</u> oo	ls <u>H</u> elp		
ſ	Home About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Vari	ables	Clear	
Action Verb			Recommended Methods and Sequence of Instruction
Calculate		~	Key Points for Success
Performance	Level		Facilitator Considerations
C3 - Applying			Practical Exercise Considerations
Definition			Other Considerations
To ascertain by exprocesses.	vercise of practical judgm	ent or mathematical	Case Studies
Group Size			Case Study Example
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>			Sequence of Instruction Example
Experience New to task No task No task knowledge, no fundamentals. Familiar with task Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals.			Soldiers complete the first PE in small groups     Facilitators provide feedback to the large group     Facilitators provide Just-in-Time information to the large group     Soldiers complete the second PE in small groups     Facilitators conduct a large group discussion     Task Number: 052-193-3022     Task Title: Calculate Timber-Cutting Charges         The Soldier must accurately calculate the timber-cutting charges correctly using a
Other Ver Level	bs at the sam	e Cognitive	formula and given a handheld calculator and the information needed. <ul> <li>Calculate timber-cutting charges using the six-step problem-solving format.</li> <li>Step 1. Obtain critical data.</li> <li>Step 2. Calculate the weight of a single charge of TNT using the appropriate demolition formula.</li> </ul>
Access Administer Annotate Apply Brief Calculate Challenge	Debrief Demonstrate Employ Ensure Estimate Facilitate Implement	Perform Prepare Present Process Produce React Read	<ul> <li>Step 3. Divide the quantity of explosive by the Relative Effectiveness (RE) factor.</li> <li>Step 4. Determine the number of packages of explosive for a single charge by dividing the individual charge weight by the standard package weight of the chosen explosive. Round this result to the next higher, whole package.</li> <li>Step 5. Determine the number of charges based on the targets.</li> <li>Step 6. Determine the total quantity of explosives required to destroy the target by multiplying the number of charges (Step 5) by the number of packages</li> </ul>



iew Favorites Iools	Пеір		Case Study Example		×
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>	er		Sequence of Instruction Example		
Experience		Just-in-Time Information Examples			
New to task No task knowle	New to task No task knowledge, no fundamentals.		The Facilitator provides more detailed information regarding the specific material and information to be learned.		
Preliminary tasi	k knowledge, understand	ls fundamentals.	Use Formula	Relative Effectiveness (RE) factor examples	0
Proficient wi Definitive task I	th task <i>inowledge, executes the</i>	fundamentals	Internal Charges P=D <sup>2</sup> /250	Explosive	R.E.
	and a subsect with	94024935555555	Abatis P=D <sup>2</sup> /50	Black powder	0.55
Other Verb	os at the sam	e Coanitive	External Charges P=D <sup>2</sup> /40	Composition C-4	1.34
Level	e at the cart	ie eeginare	P = Pounds of TNT D = The least dimension in inches	Gelignite	1.60
Level				Hexogen (RDX)	1.60
Access	Debrief	Perform	How to measure the	Nitroglycerin	1.54
Administer	Demonstrate	Prepare	circumference of a tree	Nobel's Dynamite	1.25
Annotate	Employ	Present	Use engineer tape, or similar length	Octol	1.54
Apply Brief	Ensure Estimate	Process Produce	of cord (e.g. 550 cord)	Penthrite (PETN)	1.66
Calculate	Facilitate	React	Wrap the tape/cord around the tre	Semter	1.35
Challenge	Implement	Read	Mark the tape/cord where it makes one complete circle around the tre		1.00
Change	Inform	Refine	Measure the length of tape/cord		
Communicate	Interpret	Register	against your M16 (length approx. 40-inches) to get total length from	Bore Holes	
Compute Conduct	Investigate Lead	Report Request	start point to marked point	Use one bore hole to place	the explo-
Confirm	Manage Order	Review Translate	This is the circumference of the tree	sives in trees up to 18-inches in diameter.	
Control	order	Hansiale	How to determine the diameter of the tree	For larger trees use two bo drilled at right angles to ea without intersecting, but a	ich other
			Diameter=Circumference/π	together as possible	
			Pi (n) = 3.14159265359 or 3.14		
			Backwards Fading Example		

(iew F <u>a</u> vorites <u>T</u> oo	is ⊡eib			
ſ	Home About Too	Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk	Admin Lo
Task Vari	ables	Clear		
Action Verb			Recommended Methods and Sequence of Instruction	~
Calculate		~	Key Points for Success	~
Performance	Level		Facilitator Considerations	~
C3 - Applying			Practical Exercise Considerations	~
Definition			Other Considerations	~
To ascertain by exprocesses.	ercise of practical judgme	nt or mathematical	Case Studies	~
Group Size			Case Study Example	~
1:16 or less				
1:17 or great	iter		Sequence of Instruction Example	Ň
Experience			Just-in-Time Information Examples	~
New to task	: edge, no fundamentals.		Backwards Fading Example	~
Familiar with task Preliminary task knowledge, understands fundamentals.		tundamentals.	Backwards fading (BF) is the systematic removal of scaffolding (i.e., instructional support) across learning trials.	
	O Proficient with task		Used to:	
	Definitive task knowledge, executes the fundamentals. Other Verbs at the same Cognitive		<ul> <li>Teach tasks to individuals who have no prior knowledge of the task</li> <li>Teach tasks that are cumulative in nature (relationship between steps)</li> <li>Move individuals from worked examples to problem solving</li> </ul>	
Level		9	Key points for success:	
Access	Debrief Demonstrate	Perform Prepare	<ul> <li>Ongoing evaluation of the Soldier's performance is required.</li> <li>The Facilitator determines when to remove instructional support based on Sold performance.</li> </ul>	dier
Annotate	Employ	Present	Techniques include:	
Apply Brief Calculate	Ensure Estimate Facilitate	Process Produce React	<ul> <li>Together, the Facilitator and Soldier perform a series of trials (attempts).</li> <li>In early learning trials, both the Soldier and the facilitator are involved in perform task steps.</li> </ul>	ming
Challenge	Implement	Read	<ul> <li>In later learning trials, more and more of the task steps are performed by the Second S</li></ul>	oldier

#### **↑** ★ ∅ File Edit View Favorites Tools Help communicate REGISTER merne TASK: Calculate the number of packages BACKWARDS FACILITATOR of Composition C4 it would take to cut a Compute Investigate Report FADING FEEDBACK 30-inch diameter tree using an internal Conduct Lead Request timber-cutting charge Confirm Manage Review Trials First the facilitator Control Order Translate STEPS demonstrates the task from beginning to end 61234567 while the Soldiers watch. Step 1. Obtain critical data. What is the critical data? . One tree = one charge Number of trees to cut Trial 1 - Begins as a • D=30" æ Diameter of the trees guided demonstration. In other words, each Soldier 0 Step 2. Calculate the weight What are the three watches and mimics the of a single charge of TNT ---formulas used for task steps performed by using the appropriate timber-cutting? 4 the facilitator. There are demolition formula. Internal no 'Soldier only' steps in --- Internal cutting charge • External this trial. ·P=(0 \* 0) / 250. · Abatis ·P=(30\*30)/250 Trial 2 - The facilitator • P = (900) / 250 and the Soldiers perform 0 • P = 3.6 pounds of TNT the first five task steps 4 and the Soldiers perform Step 3. Divide the quantity of Why do we first use a 4 the last task step alone. explosive by the Relative formula for TNT and Effectiveness (RE) factor. then divide by the RE Trial 3 - The facilitator + P/RE = pounds of of the explosive we are and the Soldiers perform issued? explosive the first four task steps • 3.6/1.34 = 2.68 pounds of Where do we find RE and the Soldiers perform Composition C4. factors? the last two task steps alone. Step 4. Determine the Where do we find the number of packages of package weights for Trial 4 - The facilitator different explosives? explosive for a single charge and the Soldiers perform by dividing the individual the first three task steps charge weight by the and the Soldiers perform standard package weight of the last three task steps the chosen explosive. Round alone. this result to the next higher, whole package. Trial 5 - The facilitator P/Package Weight = and the Soldiers perform number of packages the first two task steps (round-up to next whole and the Soldiers perform package) the last four task steps • P/Pkg Wt = 2.68/1.25 = alone. 2.14, round up to 3 packages of C4 Trial 6 - The facilitator and the Soldiers perform Step 5. Determine the What is the number of the first task step and the number of charges based on charges required if we Soldiers perform the last have 7 similar sized the targets. five task steps alone. S +1 tree = 1 charge trees? a Trial 7 - The Soldiers When would we use Step 6. Determine the total 4 complete the task by quantity of explosives one bore hole? themselves. required to destroy the target 0 by multiplying the number of When would we use You can chunk multiple two bore holes? charges (Step 5) by the steps, i.e. 1+2, 3+4, 5+6, number of packages. O to shorten the process. required per charge (Step 4). How would we place S 3 packages per target \* 1 two bore holes? target = 3 packages of Composition C4 Memory Joggers Examples

	Help		Carle Citaty a		ne.									
1:16 or less 1:17 or great	er		Sequence of	Instru	uction	Exam	ple							
Experience			Just-in-Time	Infor	matio	n Exan	ples							
New to task	dge, no fundamentals.		Backwards F	ading	) Exan	nple								
Familiar with Preliminary task	task <i>knowledge, understand</i>	ls fundamentals.	Memory Jog	gers I	Examp	ples								
Proficient wit	th task nowledge, executes the	fundamentals.	Memory jogge level reminder		design	ed to re	duce the	e Soldi	ier's c	ognitive lo	ad by p	roviding	g mac	ro 📕
		- O	Formula		Use									
Juner Verb	is at the sam	le Cognitive	P=D2/250		Inter	nal Ch	arges							
_evel			P=D <sup>2</sup> /50		Abat	tis								
			P=D <sup>2</sup> /40		Exte	rnal Cł	arges							
locess Idminister Innotate	Debrief Demonstrate Employ	Perform Prepare Present	P = Pounds D = The lea			on in in	ches							
Apply	Ensure	Process										991.977-572		
Rief	Estimate	Produce	Internal Cha	arges			Ab	atis			Ex	ternal	Chai	rges
Calculate	Facilitate	React	T	Explo	sive		all hill	- nin					1	0.
Challenge	Implement	Read	AN	P=L	D <sup>2</sup> /250	-			P=D <sup>2</sup>	2/50	P=D	2/40		2
Change Communicate	Inform Interpret	Refine Register	(FE)	(t)		-				re D is the		0	$\searrow$	
Compute	Investigate	Report	It'Ka	-		1	44	71	ieast in inc	dimension thes		LI.	PL	1
Conduct	Lead	Request	W->		_	1.5m (	5)/	1 1			Fa		H	1
Confirm	Manage	Review	Tam	ping		-	1	"	1	_			-	
Control	Order	Translate	rain	ping										
			Charge		(1.25					sition C4 Timber [			ches)	
			Туре	6	8	10	12	15	18	21 24	27	30	33	36
			Internal	1	1	1	1	1	1	2 2	2	3	3	4
			External	1	1	2	3	4	5	7 9	11	14	17	20
			AL	-	-	-	3 2	-	_	- 7	9	11	13	16
			Abatis										1.0	1.0

#### 🗿 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Calculate&types2&value=3& 🍷 🖸 Instructional Methods Tool

- 6 × 合 ★ 章

### File Edit View Favorites Tools Help

4

#### Experience

New to task

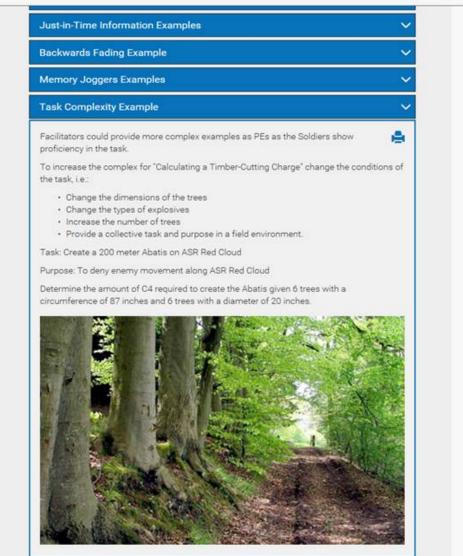
No task knowledge, no fundamentals.

 Familiar with task Preliminary task knowledge, understands fundamentals.

O Proficient with task Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Cognitive Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Facilitate	React
Challenge	Implement	Read
Change	Inform	Refine
Communicate	Interpret	Register
Compute	Investigate	Report
Conduct	Lead	Request
Confirm	Manage	Review
Control	Order	Translate



## Appendix U

Military Task Examples C2+C3 – Understanding and Applying / Small Group / Proficient with Task

nstructional Methods Tool				
Home About Tool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin L
Task Variables	Recommen	ded Methods and Sec	wence of instruction	~
Action Verb				
Calculate		tion and Experiential Lea		
Performance Level	Choose the m	ethod of instruction bas	ed on the "Time of Instruction" for the ELO.	-
C3 - Applying	Time of Instruction	Method of Instruction	20	
Definition	4-6 hours		ect tasks the Soldiers would perform on-the aching in in mixed learner groups.	rjob.
To ascertain by exercise of practical judgment or mathematical processes.	Multiple Days		cy and then have then assist in preparing le ching for longer assignments.	ssons,
Group Size	-			
1:16 or less	Key Points f	or Success		~
O 1:17 or greater	E	onsiderations		~
Experience	Facilitator C	onsiderations		
O New to task	Practical Ex	ercise Considerations	3	~
No task knowledge, no fundamentals.	Peer-to-Peer	r Learning Considerat	ions	~
Familiar with task     Preliminary task knowledge, understands fundamentals.	-			
Proficient with task	Other Consi	derations		~
Definitive task knowledge, executes the fundamentals.	On-the-Job I	Example		~
Other Verbs at the same Cognitive	10000	Information Example		

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Colculate	Escilitato	Deact

ide the class with additional examples and/or on that is presented by the Facilitators. ide peer-to-peer coaching while the less experienced in-the-job PEs. They should assist in providing feedback st the Facilitators in preparing lessons and researching uestions based on the desired level of performance. e below as guides to structure questions and use task tion
ride the class with additional examples and/or in that is presented by the Facilitators. ride peer-to-peer coaching while the less experienced in-the-job PEs. They should assist in providing feedback at the Facilitators in preparing lessons and researching uestions based on the desired level of performance. e below as guides to structure questions and use task tion
on that is presented by the Facilitators. hide peer-to-peer coaching while the less experienced in-the-job PEs. They should assist in providing feedback st the Facilitators in preparing lessons and researching uestions based on the desired level of performance. e below as guides to structure questions and use task tion
on that is presented by the Facilitators. hide peer-to-peer coaching while the less experienced in-the-job PEs. They should assist in providing feedback st the Facilitators in preparing lessons and researching uestions based on the desired level of performance. e below as guides to structure questions and use task tion
ide peer-to-peer coaching while the less experienced in-the-job PEs. They should assist in providing feedback at the Facilitators in preparing lessons and researching uestions based on the desired level of performance. e below as guides to structure questions and use task tion
st the Facilitators in preparing lessons and researching uestions based on the desired level of performance. e below as guides to structure questions and use task stion
uestions based on the desired level of performance. e below as guides to structure questions and use task ition
e below as guides to structure questions and use task ition
ition
Military Task: Apply the Military Decision
ords Making Process (MDMP) Task Example Questions/Tasks
Compare and Contrast the
similarities and differences between plans and orders.
npare, • Explain the purpose of the running
estimate. • Explain. • Summarize higher headquarters
concept of the operation.    Restate the commander's intent in
your own words.
Identify the specified, implied, and
essential tasks.    Develop 2 COAs based on
Construct, commander's guidance. tilize, etc.
tilize, etc. Construct tentative task organizations for each COA.
2

U-3

Edit View Favorites	Iools Help	1100000		
Brief	Estimate	Produce	<ul> <li>Facilitators can use the below se</li> </ul>	quencing techniques to promote learning
Calculate	Facilitate	React	Question Sequencing	Techniques to Promote Learning
Challenge		Read	Extending and lifting - involves askin	ing a number of questions at the same cognitive
Change	Inform	Refine	level, before lifting the level of questio	
Communie		Register	Example	Apply the MDMP Step 2 Mission Analysis
Compute	Investigate	Report		Summarize the higher headquarters
Conduct	Lead	Request	Extending	concept of the operation.
Confirm	Manage	Review	C2-Understanding	Restate your organization's mission as a
Control	Order	Translate	Ask questions or assign tasks at the lower level first	Task and Purpose statement. • What are the differences between specified and implied tasks?
			Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>
			Narrow to broad – ask lower level spe general questions	ecific questions, followed by next higher level
			Example	Apply the MDMP Step 4 COA Analysis (War Game)
			<b>Narrow</b> C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
			Broad C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
			Broad to narrow (funneling) – ask low level specific questions	w level general questions, followed by next higher
			Example	Apply the MDMP Step 4 COA Analysis (War Game)
			Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?

U-4

- 0 -X-

n * *		३१० 👻 🥌 Instructional Methods Tool 🛛 🗙
	OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)? • What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co? • What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?	Narrow C1-Remembering Ask specific questions at the lower level first
	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>	Broad C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.
	level general questions, followed by next higher	Broad to narrow (funneling) – ask low level specific questions
	Apply the MDMP Step 4 COA Analysis (War Game)	Example
	What are the five paragraphs of an OPORD?	Broad C1-Remembering Ask specific questions at the lower level first
	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>	Narrow C2-Understanding Then ask specific questions at the next higher level
	~	Facilitator Considerations
	~	Practical Exercise Considerations
	ns 💊	Peer-to-Peer Learning Consideration
	~	Other Considerations
	~	On-the-Job Example
		Just-in-Time Information Example

Instructional Methods Tool	
Home About Tool Physical Verb	os Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Variables	r Recommended Methods and Sequence of Instruction ∽
Action Verb	
Calculate	Key Points for Success V
Performance Level	Facilitator Considerations
C3 - Applying	Facilitators should
Definition To ascertain by exercise of practical judgment or mathematical processes.	<ul> <li>Test the Soldiers' knowledge of the material by having them apply the concepts to novel contexts.</li> <li>Assign more complex practical exercises for the Soldiers to complete.</li> </ul>
Group Size	Practical Exercise Considerations
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>	Peer-to-Peer Learning Considerations
Experience	Other Considerations
New to task No task knowledge, no fundamentals.	On-the-Job Example
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Just-in-Time Information Example
Proficient with task	

### Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Calculate	Escilitate	Deact

V

Task Variables       Recommended Methods and Sequence of Instruction         Action Verb       Image: Calculate Image:		Home About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin I
Action Verb     Calculate     Performance Level   23 - Applying   Definition   To ascertain by exercise of practical judgment or mathematical processes.   Group Size   1:16 or less   1:17 or greater   Experience   New to task   No task knowledge, understands fundamentals.   Parolicient with task   performance Level Level     Access        Practical Exercises could reflect the types of tasks that the Soldiers would perform on the job, for example.                 Preatical Exercises could reflect the types of tasks that the Soldiers would perform on the job, for example.   1:16 or less   1:17 or greater   Seperience   New to task   New to task   New to task   Parolitinal with task   preliminary task knowledge, understands fundamentals.   Preforming toosliderations   Other Considerations    On-the-Job Example Just in Time Information Example Just in Time Information Example	Task Varia			
Calculate <ul> <li>Calculate</li> <li>Calculate</li> <li>Performance Level</li> </ul> C3 - Applying              Practical Exercises Considerations <ul> <li>Practical Exercises could reflect the types of tasks that the Soldiers would perform on the job, for example:             <ul> <li>Translating authentic materials</li> <li>Prepring operations orders</li> <li>Translating authentic materials</li> <li>Prepring translating on the job, for example:                 <ul> <li>Translating authentic materials</li> <li>Prepring translating on the job, for example:                     <ul> <li>Translating authentic materials</li> <li>Prepring translating intelligence information</li> <li>Performing knowledge management activities</li> <li>Prepring translatic lowel briefings</li></ul></li></ul></li></ul></li></ul>	Action Verb		1	Recommended Methods and Sequence of Instruction
Performance Level         23 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Stroug Size         1:15 or less         1:17 or greater         Experience         New to task Nowledge, no fundamentals.         Paralliar with task Preliminary task knowledge, understands fundamentals.         Proficient with task Definitive task knowledge, executes the fundamentals.         Other Verbs at the same Cognitive Level         Access       Debrief	Calculate		~	Key Points for Success
23 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Croup Size         1:16 or less         1:17 or greater         Experience         New to task Norwledge, no fundamentals.         Prediction from the Facilitators to enhance their learning and maximize their performance.         Other Verbs at the same Cognitive Level         Access       Debrief         Debrief       Perform		Level		Facilitator Considerations
Prediction Exercises could reflect the types of tasks that the Solide's would perform on the job, for example:     Translating authentic materials     Preparing operations orders     Translating authentic materials     Preparing operations orders     Synchronizing intelligence information     Performing knowledge management activities     Preparing strategic level briefings     Soldiers should practice these types of tasks and receive feedback, cues, and just in time information from the Facilitators to enhance their learning and maximize their performance.     Preforming track knowledge, understands fundamentals.     Preforming task knowledge, understands fundamentals.     Preforming task knowledge, executes the fundamentals.     Other Verbs at the same Cognitive Level  Access Debrief Perform	C3 - Applying			Practical Exercise Considerations
To ascertain by exercise of practical judgment or mathematical processes.       perform on the job, for example:         Stroup Size       • Translating authentic materials         • 1:16 or less       • Researching complex problems         • 1:17 or greater       • Synchronizing intelligence information         • New to task       • Preparing opsittategic level briefings         • New to task       • Soldiers should practice these types of tasks and receive feedback, cues, and just in time information from the Facilitators to enhance their learning and maximize their performance.         • New to task       • Preficient with task         • Preficient with task       Peer-to-Peer Learning Considerations         • Other Considerations       On-the-Job Example         • Other Verbs at the same Cognitive Level       Just-in-Time Information Example         Access       Debrief       Perform	Definition			Practical Exercises could reflect the types of tasks that the Soldiers would
Group Size <ul> <li>Preparing operations orders</li> <li>Preparing complex problems</li> <li>Synchronizing intelligence information</li> <li>Performing howledge management activities</li> <li>Preparing strategic level briefings</li> </ul> <ul> <li>Soldiers should practice these types of tasks and receive feedback, cues, and just in time information from the Facilitators to enhance their learning and maximize their performance.</li> </ul> <ul> <li>New to task Nowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> </ul> <ul> <li>Preforming Considerations</li> <li>Other Considerations</li> <li>On-the-Job Example</li> </ul> <ul> <li>Just-in-Time Information Example</li> </ul> <ul> <li>Just-in-Time Information Example</li> </ul> <ul> <li>Preformation Example</li> </ul> <ul> <li>Debrief Performance</li> <li>Performance</li> <li>Performance</li> <li>Profice task in the same Cognitive</li> <li>Level</li> <li>Access Debrief Performance</li> <li>Performance</li> </ul> <ul> <li>Performance</li> <li>Performance</li> <li>Performance</li> <li>Performance</li> <li>Profice task in the same Cognitive</li> <li>Performance</li> <li>Performance</li> <li>Performance</li> <li>Performance</li> <li>Profice task in the same Cognitive</li> <li>Performance</li> <li>Performance</li> <li>Profice task in the</li></ul>		ercise of practical judgm	ent or mathematical	perform on the job, for example:
<ul> <li>Synchronizing intelligence information</li> <li>Performing knowledge management activities</li> <li>Preparing strategic level briefings</li> <li>Soldiers should practice these types of tasks and receive feedback, cues, and just in time information from the Facilitators to enhance their learning and maximize their performance.</li> <li>Soldiers should practice these types of tasks and receive feedback, cues, and just in time information from the Facilitators to enhance their learning and maximize their performance.</li> <li>Soldiers should practice these types of tasks and receive feedback, cues, and just in time information from the Facilitators to enhance their learning and maximize their performance.</li> <li>Proficient with task preliminary task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access Debrief Perform</li> </ul>				<ul> <li>Preparing operations orders</li> </ul>
<ul> <li>1:17 or greater</li> <li>1:17 or greater</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access</li> <li>Debrief</li> <li>Perform</li> <li>Perform</li> <li>Performance</li> <li>Preformance</li> <li>Preformance</li> <li>Preformance</li> <li>Preformance</li> <li>Performance</li> <li>Performance</li> <li>Performance</li> <li>Other Considerations</li> <li>On-the-Job Example</li> <li>Just-in-Time Information Example</li> </ul>				
Experience <ul> <li>New to task</li> <li>No task knowledge, no fundamentals.</li> <li>Familiar with task</li> <li>Preficient with task</li> <li>Definitive task knowledge, executes the fundamentals.</li> </ul> Peer-to-Peer Learning Considerations <ul> <li>Other Considerations</li> <li>On-the-Job Example</li> </ul> <ul> <li>Just-in-Time Information Example</li> </ul> <ul> <li>Just-in-Time Information Example</li> </ul>	$\overline{}$	ter		
New to task   No task knowledge, no fundamentals.   Familiar with task   Preliminary task knowledge, understands fundamentals.   Proficient with task   Definitive task knowledge, executes the fundamentals.   Other Verbs at the same Cognitive   Level   Access   Debrief   Perform	Ŭ			<ul> <li>Soldiers should practice these types of tasks and receive feedback, cues, and just in</li> </ul>
Familiar with task Preliminary task knowledge, understands fundamentals.       Peer-to-Peer Learning Considerations         Proficient with task Definitive task knowledge, executes the fundamentals.       Other Considerations         Other Verbs at the same Cognitive Level       On-the-Job Example         Access       Debrief         Perform       Perform	O New to task			
Preliminary task knowledge, understands fundamentals.       Other Considerations         Proficient with task       Other Considerations         Definitive task knowledge, executes the fundamentals.       Other Considerations         Other Verbs at the same Cognitive       Just-in-Time Information Example         Level       Access         Access       Debrief				
Definitive task knowledge, executes the fundamentals.       On-the-Job Example         Other Verbs at the same Cognitive       Just-in-Time Information Example         Level       Access       Debrief	$\mathbf{i}$		ls fundamentals.	Peer-to-Peer Learning Considerations
Other Verbs at the same Cognitive     On-the-Job Example       Level     Just-in-Time Information Example	<ul> <li></li> </ul>		Condomentale	Other Considerations
Level Access Debrief Perform	Deminove task	knowedge, executes the	rundamentais.	On-the-Job Example
Access Debrief Perform	Other Ver	bs at the sam	e Cognitive	Just-in-Time Information Example
	Level			
Administer Demonstrate Prepare	Access	Debrief	Perform	
	Administer			
Apply Ensure Process	Apply Brief	Estimate	Produce	

Colculate

Escilitate

Dead

Task Variables   Action Verb   Action Verb   Calculate   Parformance Level   Carbon Verb   Or Pointion   Carbon Verb   Carbon Verb Verb   Carbon Verb Verb   Carbon Verb Verb Verb Verb Verb Verb Verb Verb	[	Home About To		
Action Verb       Recommended Methods and Sequence of Instruction         Action Verb       Key Points for Success         Calculate       Performance Level         G3 - Applying       Pactical Exercise Considerations         Definition       Practical Exercise Considerations         To ascertain by exercise of practical judgment or mathematical processes.       Practical Exercise Considerations         Organisation       Practical Exercise Considerations         Image: Solid Practical Processes       Practical Exercise Considerations         Image: Solid Practical Practical Processes       Practical Exercise Considerations         Image: Solid Practical Processes       Practical Exercise Considerations         Image: Solid Practical Practical Processes       Practical Practi		About to	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo
Action Verb     Calculate     Performance Level   C3- Apping     Definition   To assertain by exercise of practical judgment or mathematical processes   Corp Size   Image: State	Task Vari	ables	Clear	Personmended Methods and Sequence of Instruction
Calculate     Performance Level   C3 - Applying     Definition   To ascertain by exercise of practical judgment or mathematical processes.   Form Size   1:16 or less   1:17 or greater   Experience   New to task   More to task   Particial rwith task   Performance task knowledge, understands fundamentals.   Proficient with task   Proficient with task   Definition   Cher Verbs at the same Cognitive   Level   Access   Debrief   Access   Debrief   Perform   Administer   Partical Exercise Considerations   Partical Exercise Considerations   Partical Exercise Considerations   Partical experience   Partical exp	Action Verb			
Performance Level         C3 - Applying         Definition         To ascertain by exercise of practical judgment or mathematical processes.         Droug Size <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals as opposed to the traditional teacher.              Preprinter PCPP training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals as opposed to the traditional teacher.           New to task              New to task               Mo task knowledge, no fundamentals.               Proficient with task               Definitive task knowledge, executes the fundamentals.               Other Verbs at the same Cognitive Level               Access             Debrief               Access             Debrief               Debrief             Perform               Access             Debrief               Access             Debrief               Access             Debrief               Access             Debrief               Access             Debrief             Perform               Access             Debrie	Calculate		~	Key Points for Success
<ul> <li>Definition</li> <li>Ta caretain by exercise of practical judgment or mathematical processions.</li> <li>Definition</li> <li>A caretain by exercise of practical judgment or mathematical processions.</li> <li>Definition</li> <li>A caretain by exercise of practical judgment or mathematical processions.</li> <li>Definition</li> <li>A core service of practical judgment or mathematical processions.</li> <li>Definition</li> <li>A core service of practical judgment or mathematical processions.</li> <li>Definition</li> <li>A core service of practical judgment or mathematical processions.</li> <li>Definition and processions.</li> <li>Definition with the service of nondamentals.</li> <li>Definitive task knowledge, executes the fundamentals.</li> <li>Definitive task knowledge and the service procession procession and procession procession.</li> <li>A core service of the service procession procession.</li> <li>Definitive task knowledge and the service procession procession.</li> <li>Definitive task knowledge and the service procession.</li> <li>Definitive task knowledge and task procession.</li> <li>Definitive task knowledge and task procession.</li> <li>Definitive task knowledge and task procession.</li> <li>De</li></ul>	Performance	Level	<b>-</b>	Facilitator Considerations
<ul> <li>To account by exercise of practical judgment or mathematical processes.</li> <li><b>Coup Size</b> <ul> <li>116 or less</li> <li>117 or greater</li> </ul> </li> <li><b>Proprietical</b> <ul> <li>New to task mowledge, no fundamentals.</li> <li>Familiar with task polyindege, understands fundamentals.</li> <li>Or folicient with task polyindege, executes the fundamentals.</li> </ul> </li> <li><b>Other Verbs at the same Cognitive Level</b> <ul> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Administer Debrief Perform</li> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Administer Perform</li> <li>Access Debrief Perform</li> <li>Administer Debrief Perform</li> <li>Administer Debrief Perform</li> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Access Debrief Perform</li> <li>Administer Debrief Perform</li> <li>Access Debrief Perform</li> <li>Administer Debrief Perform</li> <li>Access Debrief Perform</li> <li>Administer Deb</li></ul></li></ul>	C3 - Applying			Practical Exercise Considerations
To ascertain by exercise of practical judgment or mathematical processes   <b>Source State</b> <ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul> <ul> <li>1:16 or greater</li> <li>1:17 or greater</li> </ul> <ul> <li>Mew to task</li> <li>Rotask knowledge, no fundamentals.</li> <li>Pelinitive task knowledge, understands fundamentals.</li> <li>Proficient with task</li> <li>Rother Verbs at the same Cognitive Level</li> <li>Adexess</li> <li>Adexess</li> <li>Debrief</li> <li>Debrief</li> <li>Perform</li> <li>Administer</li> <li>Debrief</li> <li>Perform</li> <li>Administer</li> <li>Perform</li> <li>Administer</li> <li>Perform</li> <li>Administer</li> <li>Perform</li> <li>Administer</li> </ul>    Access Advector and administer Advector /section-header>	Definition			Peer-to-Peer Learning Considerations
Group Size       Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights through practical experience.         I:17 or greater       Intra or greater         Experience       In this instance, the P2P method of instruction for hands-on tasks is generally used to:         New to task       Intra with task         Or Familiar with task       Preliminary task knowledge, understands fundamentals.         Or Forficient with task       Soldier relationship. Soldiers learn from other Soldiers and resolve differences.         Other Verbs at the same Cognitive       Soldier relationship. Soldiers learn from other Soldiers and resolve differences.         Access       Debrief       Perform         Access       Debrief       Perform         Administer       Debrief       Perform         Administer       Perpare       Other Considerations		xercise of practical judgm	ent or mathematical	The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes
<ul> <li>It is of ress</li> <li>1:17 or greater</li> <li>1:17 or greater</li> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access Access</li> <li>Debrief</li> <li>Debrief</li> <li>Perform Administer</li> <li>Debrief</li> <li>Perform Demonstrate</li> <li>Perform</li> <li>Prepare</li> </ul>				Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights
<ul> <li>Experience</li> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access Access Administer</li> <li>Debrief Demonstrate</li> <li>Perform Prepare</li> <li>Access Access Administer</li> <li>Debrief Demonstrate</li> <li>Perform Prepare</li> <li>Cother Consider time-on-task</li> <li>Key points to consider.</li> <li>Access Access Access</li> <li>Debrief Demonstrate</li> <li>Perform Prepare</li> <li>Cother Consider time-on-task</li> <li>Access</li> <li>Debrief Demonstrate</li> <li>Perform</li> <li>Other Consider time-on-task</li> <li>Access</li> <li>Debrief Demonstrate</li> <li>Perform</li> <li>Debrief</li> <li>Perform</li> <li>Detrief</li> <li>Detrief</li> <li>Perform</li> <li>Detrief</li> <li>Detrief</li> <li>Perform</li> <li>Detrief</li> <li>Perform&lt;</li></ul>	<u> </u>			
<ul> <li>New to task No task knowledge, no fundamentals.</li> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access Access Administer</li> <li>Debrief Demonstrate</li> <li>Perform Prepare</li> <li>Key points to consider:</li> <li>Facilitators should be knowledgeable about the subject matter.</li> <li>Facilitators should be knowledgeable about the subject matter.</li> <li>Facilitators must monitor peer learning to ensure correct information is disseminated.</li> <li>Soldier task proficiency must be assessed:</li> <li>Before - to determine the Soldier's level of understanding/proficiency and identify peer-facilitators</li> <li>During - to estimate understanding/proficiency and track progress in accomplishing the training objectives</li> <li>After - to assess what the Soldier learned</li> <li>P2P training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul>	Ŭ			Increase Soldier time-on-task
<ul> <li>The P2P approach takes the Facilitator out of the "expert lecture" role.</li> <li>The P2P approach takes the Facilitator out of the "expert lecture" role.</li> <li>Facilitators must monitor peer learning to ensure correct information is disseminated.</li> <li>Soldier task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> <li>Access Debrief Perform Administer Definitive approach takes the Pacilitator out of the "expert lecture" role.</li> <li>Facilitators must monitor peer learning to ensure correct information is disseminated.</li> <li>Soldier task proficiency must be assessed:         <ul> <li>Before - to determine the Soldier's level of understanding/proficiency and track progress in accomplishing the training objectives</li> <li>After - to assess what the Soldier learned</li> <li>P2P training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul> </li> </ul>	and the second	¢		Key points to consider.
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Soldier task proficiency must be assessed:         <ul> <li>Soldier task proficiency must be assessed:</li> <li>Before - to determine the Soldier's level of understanding/proficiency and tack progress in accomplishing the training objectives</li> <li>Access Debrief Perform Administer Definitive task proficiency and the Soldier task proficiency and track progress in accomplishing the training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul> </li> <li>Method Soldier task proficiency and track progress in accomplishing the training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul>	No task know	ledge, no fundamentals.		
<ul> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level         <ul> <li>Access</li> <li>Debrief</li> <li>Perform</li> <li>Debrief</li> <li>Perform</li> <li>Demonstrate</li> <li>Prepare</li> </ul> </li> <li>Soldier task proficiency must be assessed:         <ul> <li>Before - to determine the Soldier's level of understanding/proficiency and tack progress in accomplishing the training objectives</li> <li>After - to assess what the Soldier learned</li> </ul> </li> <li>P2P training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul>			le kundamantale	<ul> <li>Facilitators must monitor peer learning to ensure correct information is</li> </ul>
Other Verbs at the same Cognitive       accomplishing the training objectives         Level       • After - to assess what the Soldier learned         Access       Debrief         Administer       Perform         Other Considerations       • Other Considerations	Proficient v	vith task		<ul> <li>Soldier task proficiency must be assessed:</li> <li>Before – to determine the Soldier's level of understanding/proficiency and identify peer-facilitators</li> </ul>
Level        • After – to assess what the Soldier learned       • P2P training places responsibility on the Soldiers to share ideas and resolve       differences.        Access     Debrief     Perform       Administer     Demonstrate     Prepare       Other Considerations        • Other Considerations	Other Ver	bs at the sam	e Cognitive	accomplishing the training objectives
Administer Demonstrate Prepare Other Considerations				<ul> <li>P2P training places responsibility on the Soldiers to share ideas and resolve</li> </ul>
Other Considerations			Perform	
	Administer Annotate	Demonstrate Employ	Prepare Present	Other Considerations V
Apply Ensure Process On the Job Funemale	Brief	Estimate	Produce	On-the-Job Example

Instructiona	al Methods To	ol				
ſ	Home About To	ool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo
Task Vari	ables	Clear	Perommen	ded Methods and Ser	quence of Instruction	~
Action Verb						
Calculate		~	Key Points	for Success		~
Performance	Level		Facilitator 0	Considerations		~
C3 - Applying			Practical Ex	ercise Consideration	8	~
Definition			Peer-to-Pee	r Learning Considera	tions	~
To ascertain by exprocesses.	vercise of practical judgm	nent or mathematical	Other Cons			~
Group Size			• With Ic	onger classes, highly prof	icient Soldiers could:	
1:16 or less				Shadow Facilitators Present material to differ		
1:17 or great	ater		14 C		rent audiences lefings, and papers to unit leaders, stakehold	ders, etc
Experience						
New to task	ç ledge, no fundamentals.		On-the-Job	Example		~
Familiar wit	h task <i>sk knowledge, understan</i> d	ds fundamentals.	Just-in-Tim	e Information Exampl	e	~
Proficient w Definitive task	rith task knowledge, executes the	fundamentals.				
Other Ver	bs at the sam	e Cognitive				
Level						
Access	Debrief	Perform				
		Prepare				

+ × ¤

#### <u>File Edit View Favorites Iools Help</u>

4

Gr	oup Size	
0	1:16 or less	

1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

 Familiar with task Preliminary task knowledge, understands fundamentals.

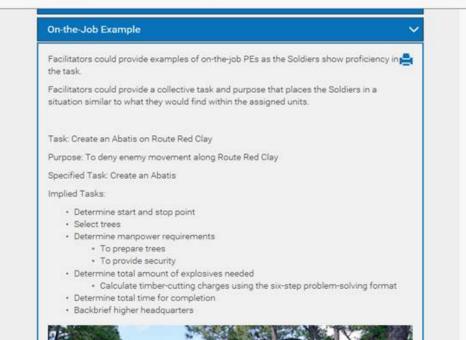
Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Access	Debrief
Administer	Demonstrate
Annotate	Employ
Apply	Ensure
Brief	Estimate
Calculate	Facilitate
Challenge	Implement
Change	Inform
Communicate	Interpret
Compute	Investigate
Conduct	Lead
Confirm	Manage
Control	Order

Perform Prepare Process Produce React Read Refine Register Report Request Review

Translate





U-10

Just-in-Time Information Example

Favorites Tools			Just-in-Time	Infor	natio	n Exa	mple							8
Experience	21 / <b>1</b>		The Facilitator information to	500 0 407 B		re deta	iiled inf	ormat	ion reg	arding th	specifi	c mater	rial and	•
No task knowled	lge, no fundamentals.		Use Formula Relative Effectiveness (RE)					0						
Familiar with task			Internal Ch	arges		P=D	2/250		fact	orexam	oles	CH MARK		
-	inary task knowledge, understands fundamentals.					P=I	D <sup>2</sup> /50		1000	losive				R,E,
Proficient with task			External Cl	harges	i.	P=	D2/40		Blac	k powde	er 👘			0.55
Definitive task knowledge, executes the fundamentals.		P=Pound	s of TN	IT				Cor	npositio	C-4		1	1.34	
ther Verh	s at the sam	e Cognitive	D = The lea	ast dim	nensio	on in ir	nches		Gel	gnite				1.60
	s at the sall	ie obgrittive						-	He	ogen (Ri	X)		1	1.60
evel.			How to me						Nitr	oglycerii	i i		1	1.54
ccess	Debrief	Perform	circumferer	0.3500.200	00000			_	Nol	pel's Dyn	emite		13	1.25
dminister	Demonstrate	Prepare	Use engine of cord (e.g.			milar	lengtr	F	Oct	ol				1.54
nnotate	Employ	Present	Wrap the ta	pe/co	rd aro	und ti	he tree	2	Pen	thrite (Pl	TN)		1	1,66
pply	Ensure	Process	Mark the ta	la de la composición de la composicinde la composición de la composición de la composición de la compo					Sen	ntex			18	1.35
rief	Estimate	Produce	one comple	ete circ	le aro	und t	he tre	9	Trin	itrotolue	ne (TN	T)	1	1.00
alculate challenge change communicate compute conduct	Facilitate Implement Inform Interpret Investigate	React Read Refine Register Report	Measure the against you 40-inches) t start point t This is the c	r M1ð o get i o mar	(leng total li ked p	th app ength oint	from	•	Use	Holes one bore in trees beter.				xplo-
onfirm ontrol	m Manage Review		How to det diameter of						drille with	arger tre d at righ out inter	t angle secting	s to ea , but a	ch oth	her
			Diameter=0	lircum	feren	ce/π			toge	ther as p	ossible			
			Pi (n) = 3.14	15926	5359	or 3.1	4							
			Charge Type		(1.25	Pac 5-pou	kage nd pa	s of C ckag	ompo es) by	osition C Timber	4 Requ Diame	uired ter (in	ches)	I.
				б	8	10	12	15	18	21 2	4 27	30	33	36
			Internal	1	1	1	1	1	1	2 2	2	3	3	4
			External	1	1	2	3	4	5	7 9	11	14	17	20
			Abatis	-	-	-	-	14	-	- 7	9	11	13	16

## Appendix V

Military Task Examples C2+C3 – Understanding and Applying / Large Group / Proficient with Task

Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Adm		
Task Variables	Recommended Methods and Sequence of Instruction		
Action Verb			
Calculate	Direct Instruction and Experiential Learning		
Performance Level	Choose the method of instruction based on the "Time of Instruction" for the ELO.		
C3 - Applying	Time of Method of Instruction Instruction		
Definition	4-8 hours Perform PEs that reflect tasks the Soldiers would perform on-the-job. Allow peer-to-peer coaching in in mixed learner groups.		
To ascertain by exercise of practical judgment or mathematical processes.	Multiple Days Test Soldier proficiency and then have then assist in preparing lessons, teaching, and researching for longer assignments.		
Group Size			
1:16 or less	Key Points for Success		
1:17 or greater	Facilitator Considerations		
Experience			
O New to task	Practical Exercise Considerations		
No task knowledge, no fundamentals.	Peer-to-Peer Learning Considerations		
<ul> <li>Familiar with task</li> <li>Preliminary task knowledge, understands fundamentals.</li> </ul>	Other Considerations		
Proficient with task	Uther Considerations		
Definitive task knowledge, executes the fundamentals.	On-the-Job Example		
Other Verbs at the same Cognitive	Just-in-Time Information Examples		

V

Employ

Ensure

Estimate

Facilitate

Inform

Interpret

Implement

Annotate Apply

Calculate

Challenge

Communicate

Change

Brief

Present

Process

Produce

React

Read

Refine

Register

	Home About To	ol Physical Verbs	Cognitive Verbs	Affective Domain Met	hods of Instruction Crosswalk	Admin		
Task Varia	ables	Clear	Recommende	d Methods and Sequence	of Instruction			
Action Verb			Constraint Website					
Calculate		~	Key Points for	Success		~		
Performance	Level			ge group of Soldiers (200+) ac ne desired level of proficiency	ditional Facilitators are required to			
C3 - Applying			<ul> <li>A large gr</li> </ul>	<ul> <li>A large group could be broken down into smaller groups with those Soldiers who are proficient with the task acting as Facilitators</li> <li>Proficient Soldiers could provide peer-to-peer coaching while the less</li> </ul>				
Definition			• Pro					
To ascertain by exercise of practical judgment or mathematical processes.			pro + Pro	experienced Soldiers are conducting the on-the-job PEs. They should assist in providing feedback and on-the-spot corrections. Proficient Soldiers could provide the class with additional examples and/or				
Group Size				<ul> <li>applications of the information that is presented by the Facilitators.</li> <li>Proficient Soldiers could assist the Facilitators in preparing lessons and researching ideas for class discussion.</li> <li>Facilitators should develop questions based on the desired level of performance.</li> </ul>				
1:16 or less			res					
1:17 or grea	ter		<ul> <li>Use the k</li> </ul>	ey words in the table below as	guides to structure questions and us			
Experience			content to	complete the question	T			
	edge, no fundamentals.		Cognitive Leve	Question Key Words	Military Task: Apply the Military D Making Process (MDMP) Task Ex Questions/Tasks			
Preliminary tas Proficient w Definitive task Other Ver	Familiar with task Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals. Ther Verbs at the same Cognitive		C2 - Understanding	Relate, Infer, Compare, Contrast, Summarize, Interpret, Restate, Explain, etc.	Compare and Contrast the similarities and differences between plans and orders.     Explain the purpose of the estimate.     Summarize higher headque concept of the operation.     Restate the commander's i	running arters		
Level					your own words.			
Access Administer Annotate	Debrief Demonstrate Employ	Perform Prepare Present	C3 - Applying	Develop, Identify, Construct	<ul> <li>Identify the specified, impli- essential tasks.</li> <li>Develop 2 COAs based on commander's guidance.</li> </ul>	ad, and		

Change Communicate	Inform Interpret	Refine Register	<ul> <li>Facilitators can use the below se</li> </ul>	quencing techniques to promote learning
Compute	Investigate	Report	Question Sequencing	Techniques to Promote Learning
Conduct Confirm	Lead Manage	Request Review	Extending and lifting – involves askin level, before lifting the level of questio	ng a number of questions at the same cognitive Ins to the next higher level.
Control	Order	Translate	Example	Apply the MDMP Step 2 Mission Analysis
			<b>Extending</b> C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>
			Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>
			Narrow to broad – ask lower level spe general questions	ecific questions, followed by next higher level
			Example	Apply the MDMP Step 4 COA Analysis (War Game)
			<b>Narrow</b> C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
			Broad C2-Understanding Then ask general questions at the next higher level.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
			Broad to narrow (funneling) – ask low level specific questions	w level general questions, followed by next higher
			Example	Apply the MDMP Step 4 COA Analysis (War Game)
			Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?

## 😞 🕞 🍥 🕼 http://www.lcs.ts.northropgrumman.com/projects/init/Tname=Calcolate&type=2&value=3& 🔹 🗸 🍯 Instructional Methods Tool 🛛 🗙

next higher level	<ul> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>
Narrow C2-Understanding Then ask specific questions at the	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units</li> </ul>
Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
Example	Apply the MDMP Step 4 COA Analysis (War Game)
	w level general questions, followed by next higher
Broad C2-Understanding Then ask general questions at the next higher level.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>(MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>

Instructional Methods Tool		
Home About Tool Physical Verb	os Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Ad	lmin Lo
Task Variables	r Recommended Methods and Sequence of Instruction	
Action Verb		
Calculate 🗸	Key Points for Success	~
Performance Level	Facilitator Considerations	~
C3 - Applying	Facilitators should:	
Definition To ascertain by exercise of practical judgment or mathematical processes.	<ul> <li>Test the Soldiers' knowledge of the material by having them apply the concepts to novel contexts.</li> <li>Assign more complex practical exercises for the Soldiers to complete.</li> </ul>	
Group Size	Practical Exercise Considerations	~
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>	Peer-to-Peer Learning Considerations	~
Experience	Other Considerations	$\sim$
New to task No task knowledge, no fundamentals.	On-the-Job Example	~
<ul> <li>Familiar with task Preliminary task knowledge, understands fundamentals.</li> </ul>	Just-in-Time Information Examples	~
Proficient with task		

### Level

Access	Debrief	Perform
Administer	Demonstrate	Prepare
Annotate	Employ	Present
Apply	Ensure	Process
Brief	Estimate	Produce
Colculate	Facilitata	Deact

V

	Home About To	ool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L			
Task Vari	ables	Clear				
Action Verb			Recommended Methods and Sequence of Instruction V			
Calculate			Key Points for Success			
Performance	Level		Facilitator Considerations			
C3 - Applying			Practical Exercise Considerations			
Definition			Practical exercises could reflect the types of tasks that the Soldiers would			
To ascertain by exercise of practical judgment or mathematical processes.		nent or mathematical	perform on the job, for example: • Translating authentic materials • Preparing operations orders			
Group Size			<ul> <li>Researching complex problems</li> </ul>			
0 1:16 or less			<ul> <li>Synchronizing intelligence information</li> <li>Performing knowledge management activities</li> </ul>			
1:17 or great	ater		<ul> <li>Preparing strategic level briefings</li> <li>Soldiers should practice these types of tasks and receive feedback, cues, and just-in-</li> </ul>			
Experience New to task	c ledge, no fundamentals.		time information from the Facilitators to enhance their learning and maximize their performance.			
O Familiar wit		ds fundamentals.	Peer-to-Peer Learning Considerations			
Proficient v			Other Considerations 🗸 🗸			
Definitive task	knowledge, executes the	fundamentals.	On-the-Job Example			
Other Ver	bs at the sam	ne Cognitive	Just-in-Time Information Examples			
Level			La contrata contrata da			

Colculate

Escilitate

Dead

Instruction:	al Methods To	ol				
[						
	Home About To	ol Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lu			
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction			
Action Verb Calculate			Key Points for Success			
Performance	Level		Facilitator Considerations			
C3 - Applying			Practical Exercise Considerations			
Definition			Peer-to-Peer Learning Considerations			
To ascertain by e processes.	ercise of practical judgn	nent or mathematical				
2010-000			The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals as opposed to the traditional teacher-			
Group Size			Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights through practical experience.			
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>			In this instance, the P2P method of instruction for hands-on tasks is generally used to:			
Experience			Increase Soldier time-on-task			
New to task			Key points to consider.			
	edge, no fundamentals.		<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> <li>The P2P approach takes the Facilitator out of the "expert lecturer" role.</li> </ul>			
Familiar wit     Prol/minant to	h task <i>sk knowledge, understan</i> i	de fundamentale	Facilitators must monitor peer learning to ensure correct information is			
Proficient v		is runuarnemais.	disseminated.   Soldier task proficiency must be assessed:			
	knowledge, executes the	fundamentals.	<ul> <li>Before – to determine the Soldier's level of understanding/proficiency and identify peer-facilitators</li> </ul>			
Otherster			<ul> <li>During – to estimate understanding/proficiency and track progress in</li> </ul>			
	bs at the sam	ie Cognitive	accomplishing the training objectives <ul> <li>After – to assess what the Soldier learned</li> </ul>			
Level			<ul> <li>P2P training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul>			
Access	Debrief	Perform				
Administer	Demonstrate	Prepare	Other Considerations			
Annotate Apply	Employ Ensure	Present Process				
Brief	Estimate	Produce React	On-the-Job Example			

Instruction	al Methods To	ol				
ĺ	Home About To	ol Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo
Task Vari	ables	Clear				
Action Verb					quence of Instruction	
Calculate		~	Key Points	for Success		~
Performance	Level		Facilitator 0	Considerations		~
C3 - Applying			Practical Ex	ercise Consideration	8	~
Definition			Peer-to-Pee	r Learning Considera	tions	~
To ascertain by e processes.	vercise of practical judgm	ent or mathematical	Other Cons			~
Group Size				inger classes, highly prof	ficient Soldiers could:	۵
-	<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>			<ul> <li>Shadow Facilitators.</li> <li>Present material to different audiences.</li> <li>Prepare explanations, briefings, and papers to unit leaders, stakeholders, etc.</li> </ul>		
Experience			500	riepare explanations, or	reninga, and papera to drift reducto, atakento	bero, etc.
O New to task	c ledge, no fundamentals.		On-the-Job	Example		~
O Familiar wit		ls fundamentals.	Just-in-Tim	e Information Examp	les	~
Proficient w						
Other Ver	bs at the sam	e Cognitive				
Level						
Access	Debrief	Perform				
	the best of the l	T SATING T				

#### - 6 × http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Calculate&type=2&value=3& 💌 🕏 ÷ Instructional Methods Tool **↑** ★ ∅ Eile Edit View Favorites Tools Help processes other considerations Group Size **On-the-Job Example** 1:16 or less Facilitators could provide examples of on-the-job PEs as the Soldiers show proficiency in 1:17 or greater the task. Experience Facilitators could provide a collective task and purpose that places the Soldiers in a situation similar to what they would find within the assigned units. New to task No task knowledge, no fundamentals. Task: Create an Abatis on Route Red Clay Familiar with task Purpose: To deny enemy movement along Route Red Clay Preliminary task knowledge, understands fundamentals. Specified Task: Create an Abatis Proficient with task Implied Tasks: Definitive task knowledge, executes the fundamentals. · Determine start and stop point · Select trees Other Verbs at the same Cognitive · Determine manpower requirements · To prepare trees Level · To provide security · Determine total amount of explosives needed Access Debrief Perform · Calculate timber-cutting charges using the six-step problem-solving format · Determine total time for completion Administer Demonstrate Prepare · Backbrief higher headquarters Annotate Present Employ Apply Ensure Process Brief Estimate Produce Calculate Facilitate React Challenge Implement Read Inform Refine Change Communicate Interpret Register Compute Investigate Report Conduct Lead Request Confirm Manage Review Control Order Translate

Just-in-Time Information Examples

- 0 -×

### **↑** ★ ¤

#### Eile Edit View Favorites Iools Help

4

#### 1:17 or greater

Experience

- New to task
  - No task knowledge, no fundamentals.
- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Access	Debrief
Administer	Demons
Annotate	Employ
Apply	Ensure
Brief	Estimate
Calculate	Facilitat
Challenge	Impleme
Change	Inform
Communicate	Interpret
Compute	Investig
Conduct	Lead
Confirm	Manage
Control	Order

Perform strate Prepare Present Process Produce React ent Read Refine Register Report ate Request Review Translate

e Facilitator p formation to b			re deta	iled int	format	tion req	parding	g the sp	pecific	mater	ial and	e.
Use			For	mula	1	Relative Effectiveness (RE)						
Internal Cha	rges	-	P=D	P/250		factor examples Explosive R.						
Abatis			P=[	<sup>2</sup> /50		in second						R.E.
External Cha	arges		P=	<sup>2</sup> /40		1.200	ck po					0.55
P = Pounds								tion C	-4			1.34
D = The least dimension in inches							ignite				-	1.60
		14					-	(RDX			-	1.60
How to meas circumference							roglyc	RIATA A				1.54
Use engineer			milar	enath	1	Nobel's Dynamite						1.25
of cord (e.g. 5					<u> </u>	Octol						1.54
Wrap the tap	e/cor	d aro	und tl	he tre	e	Penthrite (PETN)						1.66
Mark the tape/cord where it makes one complete circle around the tree											1.35	
against your M16 (length approx. 40-inches) to get total length from start point to marked point This is the circumference of the tree How to determine the diameter of the tree Diameter=Circumference/π						Bore Holes Use one bore hole to place the explo sives in trees up to 18-inches in diameter.						
						For larger trees use two bore holes, drilled at right angles to each other without intersecting, but as close together as possible						
Pi (π) = 3.141	5926	5359	or 3.1	4	1							
Charge Type		(1.25				Compo es) by					ches)	
	6	8	10	12	15	18	21	24	27	30	33	36
Internal	1	1	1	1	1	1	2	2	2	3	3	4
External	1	1	2	3	4	5	7	9	11	14	17	20
								7	9	11	13	16

## Appendix W

Military Task Examples C4+C5+C6 – Analyzing, Evaluating, and Creating / Small Group / Familiar with Task

Instructiona	l Methods T	ool						
ſ	Home About	Tool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin L		
Task Varia	ables	Clear	Recommen	ded Methods and Sec	mence of instruction	~		
Action Verb			Recommen					
Develop		~	Experiential L					
Performance	Level		<ul> <li>More r</li> </ul>		ven as Soldiers show proficiency. uld be given so that Soldiers are required to evels.			
C6 - Creating			Choose the m	Choose the method of instruction based on the "Time of Instruction" for the ELO.				
Definition			Time of					
To create or produce especially by deliberate effort over time Group Size			Instruction 2 hours					
<ul> <li>1:16 or less</li> <li>1:17 or great</li> </ul>	ter		4-8 hours		nent is possible: Perform PE; discuss as a gro possible additional procedural information; co a feedback			
Experience								
New to task	edge, no fundamental	g.	Key Points	for Success		~		
Familiar with	n task <i>k knowledge, underst</i>	ande fundamentale	Facilitator C	Considerations		~		
O Proficient wi	ith task		Practical Ex	Practical Exercise Considerations				
Definitive task i	knowledge, executes	the fundamentais.	Analysis/De	velopment Example		~		
Other Verl	os at the sa	me Cognitive	Just-in-Tim	e Information Exampl	e	~		
Level			ter and the second s			_		

~

Assemble

Compare

Consolidate

Coordinate

Assess

Draft

Edit

Establish

Integrate

Review

Revise

Secure

Teels

Schedule

(iew Favorites Iool	and a state of the	5700,000 /	10				
Task Varia	ables	Clear	Recommer	ded Methods and Sequence	e of Instruction		
Action Verb			Key Delete	La Durana	2		
Develop		~	Key Points	for Success	N		
Performance	Level				ledge, such as remembering facts, 📃 knowledge in order to reach a desired level of		
C6 - Creating			profic	ency with these types of tasks.			
Definition			1000000		on for this level should first require the Soldiers vn (either ahead of time as homework or during		
To create or produ	ice especially by delibe	rate effort over time		st portion of the class) and then acilitators.	receive feedback on their work by their peers		
Group Size			<ul> <li>Soldie</li> </ul>	rs could analyze policy decision:	and the second and third-order effects and		
Group Size  1:16 or less			7,1,0,2,2,2,2	possible unintended consequences of strategic or operational decisions. <ul> <li>Facilitator feedback is essential.</li> </ul>			
1:17 or greater			<ul> <li>Facilit</li> </ul>	ators should develop questions l	based on the desired level of performance.		
Experience				e key words in the table below a nt to complete the question	s guides to structure questions and use task		
New to task No task knowledge, no fundamentals.		Cognitive	Question Key Words	Military Task: Apply the Military Decision Making Process (MDMP) Task Example			
Familiar with					Questions/Tasks  • What is your estimation for		
Preliminary task knowledge, understands fundamentals.  Proficient with task Definitive task knowledge, executes the fundamentals.  Other Verbs at the same Cognitive		C4 – Analyzing	Analyze, Examine, Classify, Categorize, Determine, etc.	movement time of the main effort from the TAA to the LD.? • How does the Go and NoGo terrain on the MCOO affect maneuver for COA 2?			
	JS at the Sal	ne cognitive	Chargening	Categorize, Determine, etc.	<ul> <li>Analyze each friendly COA in relation to the enemy's most likely and most</li> </ul>		
Analyze	Develop	Reorganize			dangerous COA. • Determine branches and sequels during COA analysis.		
Approve Assemble Assess Compare Consolidate Coordinate Correlate	Direct Draft Edit Establish Integrate Localize Modify	Resolve Review Revise Schedule Secure Task Test	C5 - Creating	Plan, Predict, Modify, Change, Improve, Adapt, Combine, etc.	<ul> <li>How do you predict the enemy will respond to COA 1?</li> <li>How would you modify the COAs based on the war-game results?</li> <li>What aspects of each COA can you combine into 1 COA to meet the commander's guidance?</li> </ul>		
Counsel Deconflict	Organize Plan	Troubleshoot Update			Create a synchronization matrix.		
Defend	Predict	Validate	C6 -	Defend, Dispute, Judge,	<ul> <li>Prioritize each COA using the evaluation criteria.</li> </ul>		
Designate	Project	Verify	Evaluating	Recommend, Assess, Conclude, Prioritize, etc.	<ul> <li>Recommend and defend a COA to the commander.</li> </ul>		

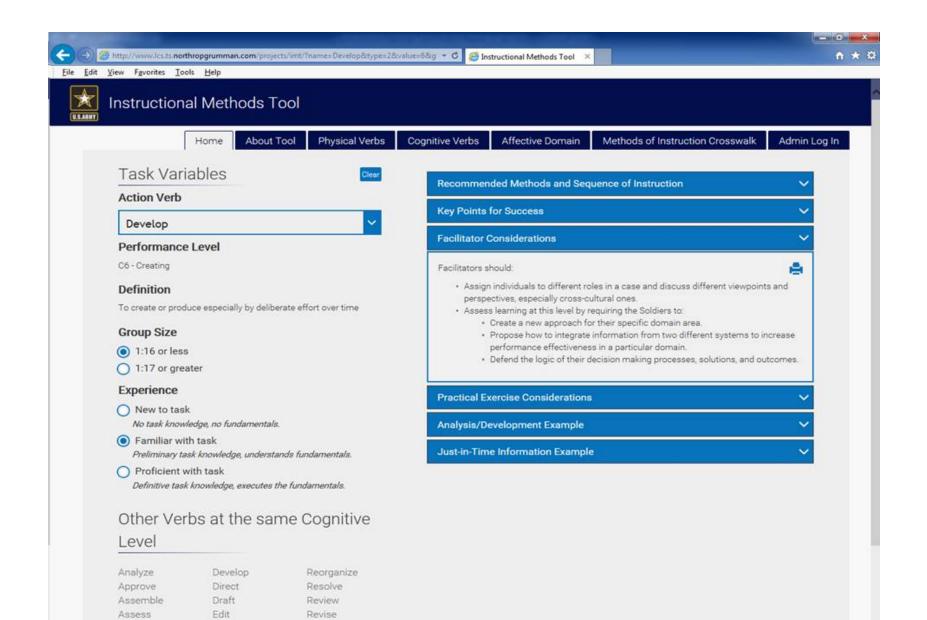
dit <u>V</u> iew F <u>a</u> vorites Iools <u>H</u> elp	NE (Dellawards) (della (Della educational)	10 W.
Determine Recommend	Conclude, Prioritize, etc. commander.	
	Facilitators can use the below sequencing techniques to promote learning	
	Question Sequencing Techniques to Promote Learning	
	<b>Extending and lifting</b> – involves asking a number of questions at the same cognitive level, before lifting the level of questions to the next higher level.	
	Example Apply the MDMP Step 2 Mission Analysis	
	Extending     C2-Understanding     Ask questions or assign tasks at the     lower level first     · Summarize the higher headquarters     concept of the operation.     · Restate your organization's mission as a     Task and Purpose statement.     · What are the differences between specified     and implied tasks?	
	Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	
	Narrow to broad – ask lower level specific questions, followed by next higher level general questions           Apply the MDMP Step 4 COA Analysis (War	
	Example Game)	
	Narrow       • What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?         C1-Remembering Ask specific questions at the lower level first       • What are the main offensive weapons of OPFOR MECH Inf (IFV) Co?         • What are the main offensive weapons of OPFOR MECH Inf (IFV) Co?       • What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?	
	Broad         • Explain how the enemy would deploy a           C2-Understanding         • MECH Inf (IFV) Co as the fixing element during offensive operations.	
	Broad to narrow (funneling) – ask low level general questions, followed by next high level specific questions	r S
	Example Apply the MDMP Step 4 COA Analysis (War Game)	
	Broad	

- 0 - X-

ttp://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&x	value=6&g 👻 🖸 🧭 Instructional Methods Tool 🛛 🗧	
w Fgvorites Iools ∐elp	Narrow to broad – ask lower level s general questions	pecific questions, followed by next higher level
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Narrow C1-Remembering Ask specific questions at the lower level first	What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?     What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?     What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?
	Broad C2-Understanding Then ask general questions at the next higher level.	Explain how the enemy would deploy a     MECH Inf (IFV) Co as the fixing element     during offensive operations.
	Broad to narrow (funneling) – ask lo level specific questions	w level general questions, followed by next higher
	Example	Apply the MDMP Step 4 COA Analysis (War Game)
	Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
	Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>
	Facilitator Considerations	~
	Practical Exercise Consideration	s 👻
	Analysis/Development Example	~
	Just-in-Time Information Exampl	e 🗸

- 0 - X

## W-5



Compare

Consolidate

·

Establish

Integrate

I neelin

Schedule

Secure

Home Abou	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo			
Task Variables	Clear				
Action Verb		Recommended Methods and Sequence of Instruction			
Develop	~	Key Points for Success V			
Performance Level		Facilitator Considerations			
C6 - Creating		Practical Exercise Considerations			
Definition		Practical exercises at this level should include			
To create or produce especially by deli	berate effort over time	Debates			
Group Size		<ul> <li>Research assignments that require Soldiers to discern between facts and inferences</li> </ul>			
1:16 or less		<ul> <li>Hypotheses and supporting evidence for their results</li> <li>Analyses of concepts with contrasting cases such that the surface features of</li> </ul>			
0 1:17 or greater		the scenarios change but the underlying knowledge and skill requirements			
Experience		remain the same (i.e., analysis of deep structures) <ul> <li>Following each PE, Soldiers should receive practice accomplishing the tasks and</li> </ul>			
New to task No task knowledge, no fundamenta	ls.	receive feedback, cues, and just-in-time information from the Facilitators to enhance their learning and maximize their performance			
Familiar with task Preliminary task knowledge, unders	tands fundamentals.	Analysis/Development Example			
O Proficient with task Definitive task knowledge, executed	the fundamentals.	Just-in-Time Information Example			
Other Verbs at the sa	ime Cognitive				
Level					

Compare

Consolidate

Establish

Integrate

Schedule

Secure

~

#### 🛞 🧑 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 👻 🖒 🍯 Instructional Methods Tool 🛛 🗴

## - 6 - X

#### 青 ★ 拉

#### Ele Edit View Favorites Iools Help C6 - Creating

Definition

Group Size

1:16 or less

#### Practical Exercise Considerations

#### Analysis/Development Example

#### Task Number: 052-310-7105

#### Task Title: Develop an Engagement Area

As a Platoon Leader your unit has been given a mission that requires development of an engagement area. You are given an operations order, maps, situational template, maneuver graphics, any existing obstacle overlays, direct or indirect fire overlays, combat service support graphics, calculator, paper, pencil, compass, and protractor.

The facilitator can assign different roles, i.e. BLUFOR PL, Engineer, Fire Support Officer, etc., to individuals or groups for the PE. At the completion of the PE each role has to brief his/her part to the peer group.

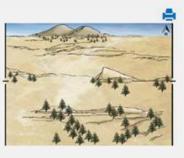
 Identify likely enemy avenues of approach.

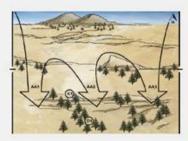
> a. Conduct initial reconnaissance.
>  b. Identify key (K) and / or decisive
>  (D) terrain.
>  c. Determine which avenues will afford cover and concealment for

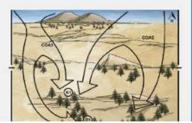
the enemy d. Evaluate lateral routes adjoining each avenue of approach.

 Determine the enemy scheme of maneuver.
 a. Determine how the enemy will

structure the attack. b. Determine how the enemy will use his reconnaissance assets. c. Determine where and when the enemy will change formations and / or establish support by fire







V

# 1:17 or greater Experience New to task No task knowledge, no fundamentals. Familiar with task Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Cognitive Level

To create or produce especially by deliberate effort over time

Analyze Develop Approve Direct Assemble Draft Assess Edit Establish Compare Consolidate Integrate Coordinate Localize Correlate Modify Counsel Organize Deconflict Plan Defend Predict Designate Project Determine

 Develop
 Reorganize

 Direct
 Resolve

 Draft
 Review

 Edit
 Revise

 Establish
 Schedule

 Integrate
 Secure

 Localize
 Task

 Modify
 Test

 Organize
 Troubleshoot

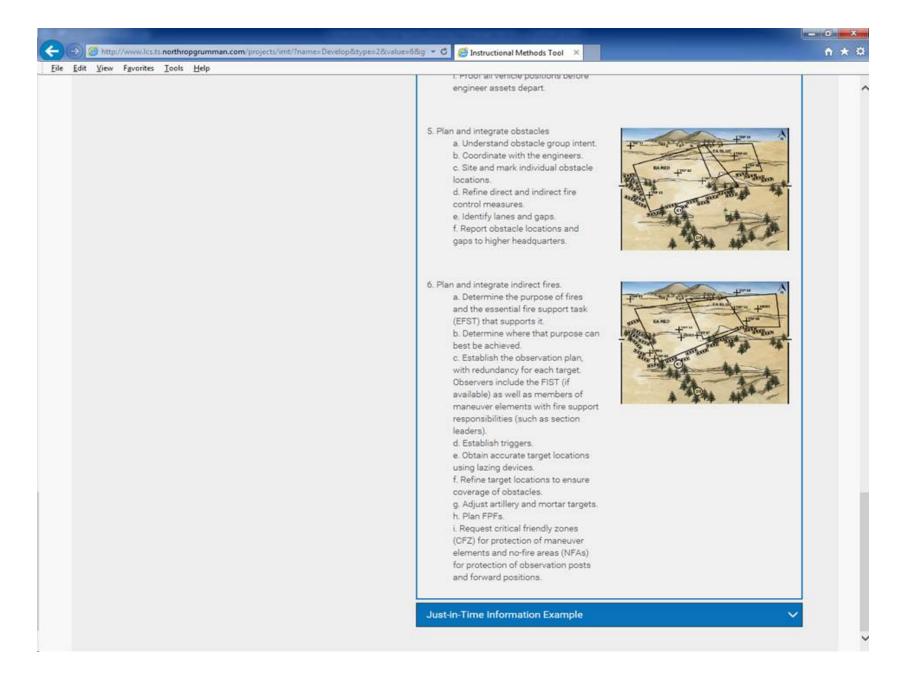
 Plan
 Update

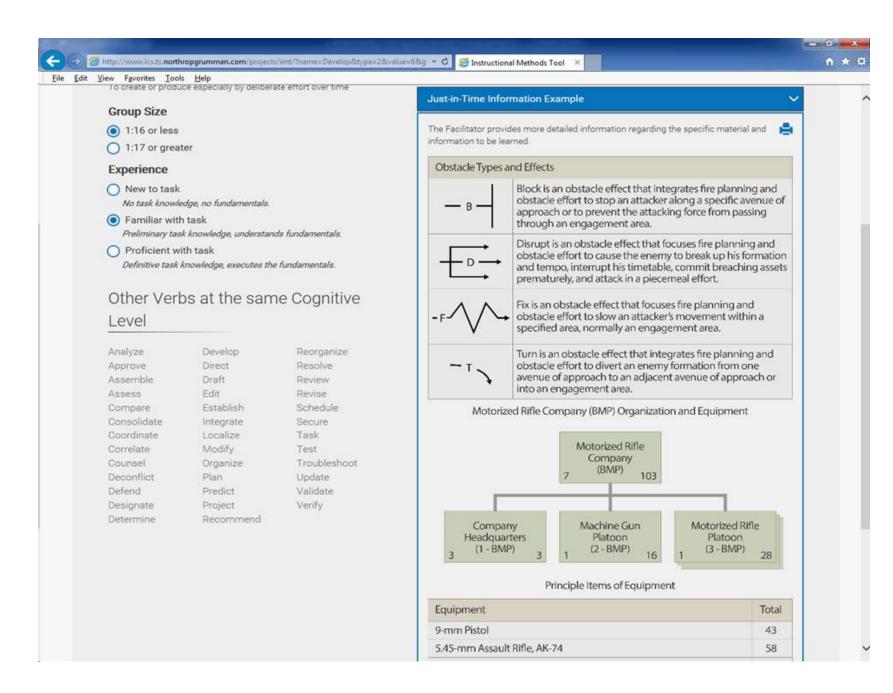
 Predict
 Validate

 Project
 Verify

			- 0 ×
( 🕘 🙆 http://www.ics.ts.northropgrumman.com/projects/imt/Thame=Develop&ty	pe=2&value=6&g 👻 🖒 🧭 Instructional Methods Tool 🛛 🗙		n 🛧 🛱
Eile Edit View Fgvorites Iools Help		NAMES OF TAXABLE AND ADDRESS OF TAXABLE AND ADDRESS OF TAXABLE AND ADDRESS OF TAXABLE	
	his reconnaissance assets. c. Determine where and when the enemy will change formations and / or establish support by fire positions. d. Determine enemy equipment and weapons capabilities and where, when, and how the enemy will conduct his assault, breaching operations, and commit follow-on forces. e. Determine the enemy's expected rates of movement. f. Assess the effects of his combat multipliers. g. Determine what reactions the enemy is likely to have in response to projected friendly actions.		^
	<ol> <li>Determine where to kill the enemy.         <ul> <li>a. Identify target reference points (TRP) that match the enemy's scheme of maneuver, allowing the company to identify where it will engage enemy forces through the depth of the sector.</li> <li>b. Identify and record the exact location of each TRP.</li> <li>c. Determine how many weapons systems, by type, must focus fires on each TRP to achieve the desired effects.</li> <li>d. Determine which platoons will mass fires on each TRP.</li> <li>e. Establish engagement areas around TRPs.</li> <li>f. Develop the direct fire planning measures necessary to focus fires at each TRP.</li> </ul> </li> </ol>		
	<ol> <li>Emplace weapon systems.</li> <li>a. Select tentative platoon battle positions. (When possible, select these while moving in the</li> </ol>	Last Print Para	v

A CONTRACTOR OF THE OWNER OWNER OF THE OWNER		- 0 - X-
Bittp://www.ics.ts.northropgrumman.com/projects/imt/Tname=Develor     Eile Edit View Fgvorites Iools Help	opättype=28cvalue=68cg 👻 C S Instructional Methods Tool 🛛 ×	合 ★ 章
	<ul> <li>b. Conduct a leader's recomaissance of the tentative battle positions.</li> <li>c. Drive the engagement area to confirm that selected positions are tactically advantageous.</li> <li>d. Confirm and mark the selected battle positions.</li> <li>e. Ensure that battle positions do not conflict with those of adjacent units and that they are effectively tied in with adjacent positions.</li> <li>f. Select primary, alternate, and supplementary fighting positions to achieve the desired effect for each TRP in the engagement area.</li> <li>g. Ensure that platoon leaders, platoon sergeants, section leaders, and squad leaders position weapons systems to effectively cover each TRP with the required number of weapons systems (by type) and platoons.</li> <li>h. Site and mark vehicle positions in accordance with unit SOP so engineers can dig in the positions while section leaders.</li> <li>i. Proof all vehicle positions before engineer assets depart.</li> </ul>	
	<ul> <li>5. Plan and integrate obstacles <ul> <li>a. Understand obstacle group intent.</li> <li>b. Coordinate with the engineers.</li> <li>c. Site and mark individual obstacle locations.</li> <li>d. Refine direct and indirect fire control measures.</li> <li>e. Identify lanes and gaps.</li> <li>f. Report obstacle locations and gaps to higher headquarters.</li> </ul> </li> </ul>	
	<ul> <li>6. Plan and integrate indirect fires.</li> <li>a. Determine the purpose of fires and the essential fire support task</li> </ul>	the two is





Level	os ac me sam	e cognitive	-F-VVF Fix is an obstacle effect that focuses fire planning obstacle effort to slow an attacker's movement w specified area, normally an engagement area.	i and vithin a
Analyze Approve Assemble Assess Compare	Direct F Draft F Edit F	Reorganize Resolve Review Revise Schedule Secure Task Test Troubleshoot Update Validate	Turn is an obstacle effect that integrates fire plan obstacle effort to divert an enemy formation from avenue of approach to an adjacent avenue of app into an engagement area.	n one proach or
Consolidate Coordinate Correlate Counsel Deconflict Defend	Integrate Localize Modify Organize Plan Predict		Motorized Rifle Company (BMP) Organization and Equipm Motorized Rifle Company 7 (BMP) 103	ent
Designate Determine	Project Recommend	Verify	Company Headquarters 3 (1 - BMP) 3 Machine Gun Platoon 1 (2 - BMP) 16 Motorized Platoon 1 (3 - BM Principle Items of Equipment	on (P) 28
			Equipment	Total
			9-mm Pistol	43
			5.45-mm Assault Rifle, AK-74	58
			5.45-mm Light Machine Gun, RPK-74	9
			7.62-mm, Sniper Rifle, SVD	3
			Antitank Grenade launcher, RPG-7V Amphibious Infantry Combat Vehicle BMP/BMP-1/BMP-2	9 12
			7.62-mm General Purpose MG, PKM	6
			Radios:	0
				e
			VHF, Portable, Low Power	5
			VHF, Manpack, Low Power VHF, Vehicle Mount, Medium Power	1

## Appendix X

Military Task Examples C4+C5+C6 – Analyzing, Evaluating, and Creating / Large Group / Familiar with Task

nstructional Methods Tool		
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk	Admin L
Task Variables	Recommended Methods and Sequence of Instruction	~
Action Verb		
Develop	Experiential Learning	
Performance Level	<ul> <li>More complex examples are given as Soldiers show proficiency.</li> <li>More rigorous assessments could be given so that Soldiers are required to</li> </ul>	
C6 - Creating	demonstrate their proficiency levels.	
Definition	Choose the method of instruction based on the "Time of Instruction" for the ELO.	
To create or produce especially by deliberate effort over time	Time of Method of Instruction Instruction	
Group Size	2 hours If pre-class assignment is possible: review outcome of PE and provide feedback.	
1:16 or less	4-8 hours If no pre-class assignment is possible: Perform PE; discuss as a group	
1:17 or greater	receive feedback and possible additional procedural information; cond second PE and receive feedback.	luct
Experience		
New to task No task knowledge, no fundamentals,	Key Points for Success	~
Familiar with task     Preliminary task knowledge, understands fundamentals.	Facilitator Considerations	~
O Proficient with task	Practical Exercise Considerations	~
Definitive task knowledge, executes the fundamentals.	Sequence of Instruction No Pre-Class Assignment	~
Other Verbs at the same Cognitive	Analysis/Development Example	~
Level		

V

Assemble

Compare

Consolidate

Coordinate

Assess

Draft

Edit

Establish

Integrate

Review

Revise

Secure

Teels

Schedule

### 🛞 🍘 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 👻 🖒 🦉 Instructional Methods Tool

#### File Edit View Favorites Tools Help ACTION VEID

Develop

C6 - Creating

Definition

**Group Size** 

Performance Level

4

#### Key Points for Success

- With a large group of Soldiers (200+) additional Facilitators are required to achieve the desired level of proficiency.
- · A large group could be broken down into smaller groups with those Soldiers who are proficient with the task acting as Facilitators.
- Soldiers must have foundational knowledge, such as remembering facts, understanding concepts, and applying knowledge, in order to reach a desired level of proficiency with these types of tasks.
- The sequencing of classroom instruction for this level should first require the Soldiers to complete an assignment on their own (either ahead of time as homework or during the first portion of the class) and then receive feedback on their work by their peers and Facilitators.
- · Soldiers could analyze policy decisions and the second and third-order effects and possible unintended consequences of strategic or operational decisions.
- · Facilitators should develop questions based on the desired level of performance.
- . Use the key words in the table below as guides to structure questions and use task content to complete the question.

Cognitive Level	Question Key Words	Military Task: Apply the Military Decision Making Process (MDMP) Task Example Questions/Tasks
C4 – Analyzing	Analyze, Examine, Classify, Categorize, Determine, etc.	<ul> <li>What is your estimation for movement time of the main effort from the TAA to the LD.?</li> <li>How does the Go and NoGo terrain on th MCOO affect maneuver for COA 2?</li> <li>Analyze each friendly COA in relation to the enemy's most likely and most dangerous COA.</li> <li>Determine branches and sequels during COA analysis.</li> </ul>
C5 - Creating	Plan, Predict, Modify, Change, Improve, Adapt, Combine, etc.	<ul> <li>How do you predict the enemy will respond to COA 1?</li> <li>How would you modify the COAs based on the war-game results?</li> <li>What aspects of each COA can you combine into 1 COA to meet the commander's guidance?</li> <li>Create a synchronization matrix.</li> </ul>
C6 - Evaluating	Defend, Dispute, Judge, Recommend, Assess, Conclude, Prioritize, etc.	<ul> <li>Prioritize each COA using the evaluation criteria.</li> <li>Recommend and defend a COA to the commander.</li> </ul>

**Question Sequencing Techniques to Promote Learning** 

## 1:16 or less 1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

 Familiar with task Preliminary task knowledge, understands fundamentals.

To create or produce especially by deliberate effort over time

O Proficient with task Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Cognitive Level

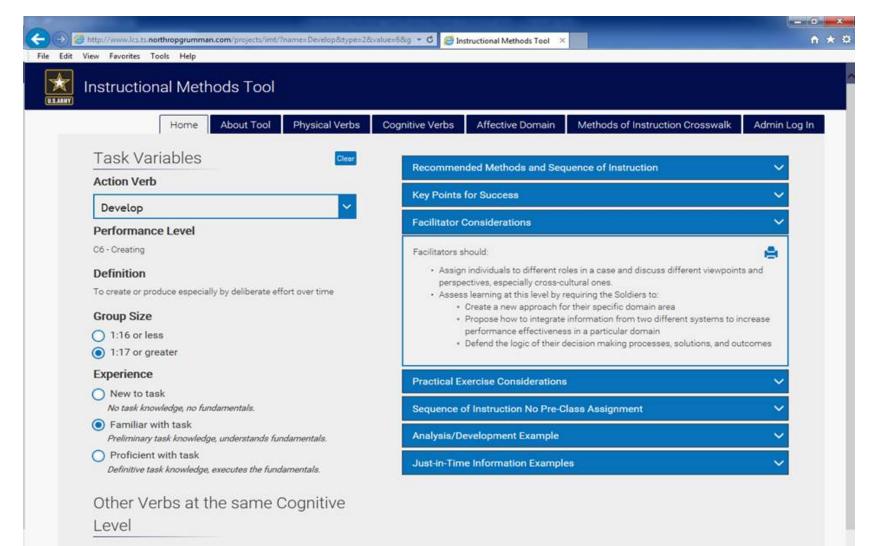
Analyze	Develop	Reorganize
Approve	Direct	Resolve
Assemble	Draft	Review
Assess	Edit	Revise
Compare	Establish	Schedule
Consolidate	Integrate	Secure
Coordinate	Localize	Task
Correlate	Modify	Test
Counsel	Organize	Troubleshoot
Deconflict	Plan	Update
Defend	Predict	Validate
Designate	Project	Verify
Determine	Recommend	

## < 🕢 🎯 http://www.Ics.ts.northropgrumman.com/projects/imt/Thame=Develop&type=2&value=6&g 👻 🗸 🧭 Instructional Methods Tool 🛛 🗴

<u>File Edit View Favorites Iools H</u>elp

Extending and lifting – involves asking a nu lifting the level of questions to the next high	Imber of questions at the same cognitive level, before er level.
Example	Apply the MDMP Step 2 Mission Analysis
Extending C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>
Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization</li> </ul>
Narrow to broad - ask lower level specific	questions, followed by next higher level general questions
Example	Apply the MDMP Step 4 COA Analysis (War Game)
Narrow C1-Remembering Ask specific questions at the lower level first	What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?     What are the main offensive weapons of an OPFOF MECH Inf (IFV) Co?     What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?
Broad C2-Understanding Then ask general questions at the next higher level.	Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.
Broad to narrow (funneling) – ask low leve questions	I general questions, followed by next higher level specific
Example	Apply the MDMP Step 4 COA Analysis (War Game)
Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>

...



Analyze	Develop	Reorganize
Approve	Direct	Resolve
Assemble	Draft	Review
Assess	Edit	Revise
Compare	Establish	Schedule
Consolidate	Integrate	Secure
Coordinate	Localian	Test

nstructiona	al Methods T	ool		
٢	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo	
Task Vari	ables	Clear	Recommended Methods and Sequence of Instruction	
Action Verb				
Develop		<b>~</b>	Key Points for Success	
Performance	Level		Facilitator Considerations V	
C6 - Creating			Practical Exercise Considerations	
Definition			Practical exercises at this level should include	
To create or produ	uce especially by delib	erate effort over time	Debates     Research assignments that require Soldiers to discern between facts and	
Group Size			inferences	
O 1:16 or less			<ul> <li>Hypotheses and supporting evidence for their results</li> <li>Analyses of concepts with contrasting cases such that the surface features of</li> </ul>	
1:17 or great	ter		the scenarios change but the underlying knowledge and skill requirements	
Experience			remain the same (i.e., analysis of deep structures <ul> <li>Following each PE, Soldiers should receive practice accomplishing the tasks and</li> </ul>	
New to task	edge, no fundamentals	r.	receive feedback, cues, and just-in-time information from the Facilitators to enhance their learning and maximize their performance	
Familiar wit	h task sk knowledge, understa	ands fundamentals.	Sequence of Instruction No Pre-Class Assignment	
O Proficient w Definitive task	ith task <i>knowledge, executes i</i>	the fundamentals.	Analysis/Development Example	
Other Ver	bs at the sa	me Cognitive	Just-in-Time Information Examples	
Level				
Analyze	Develop	Reorganize		
Approve	Direct	Resolve		
Assemble Assess	Draft Edit	Review Revise		
Assess	EGIL	Revise		

Compare

Consolidate

Coordinate

Establish

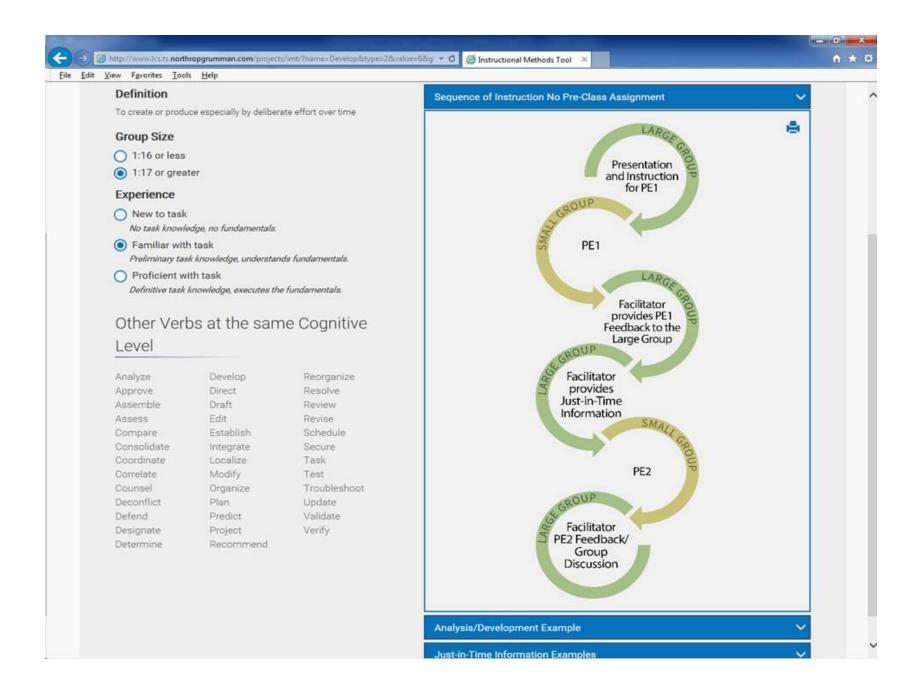
Integrate

Schedule

Secure

Teals

~



#### 🕒 🧐 http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 👻 🖒 🍯 Instructional Methods Tool 🛛 🗴

## × 0 = ×

#### File Edit View Favorites Tools Help

To create or produce especially by deliberate effort over time

#### Group Size

1:16 or less

1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

Develop

Establish

Integrate

Localize

Modify

Plan

Predict

Project

Recommend

Organize

Direct

Draft

Edit

# Other Verbs at the same Cognitive Level

Analyze Approve Assemble Assess Compare Consolidate Coordinate Coordinate Coursel Deconflict Defend Designate Determine Reorganize Resolve Review Revise Schedule Secure Task Test Troubleshoot Update Validate Verify

#### Analysis/Development Example

Task Number: 052-310-7105

Task Title: Develop an Engagement Area

As a Platoon Leader your unit has been given a mission that requires development of an engagement area. You are given an operations order, maps, situational template, maneuver graphics, any existing obstacle overlays, direct or indirect fire overlays, combat service support graphics, calculator, paper, pencil, compass, and protractor.

The facilitator can assign different roles, i.e. BLUFOR PL, Engineer, Fire Support Officer, etc., to individuals or groups for the PE. At the completion of the PE each role has to brief his/her part to the peer group.

 Identify likely enemy avenues of approach.

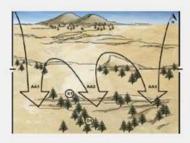
a. Conduct initial reconnaissance,
 b. Identify key (K) and / or decisive
 (D) terrain,
 c. Determine which avenues will

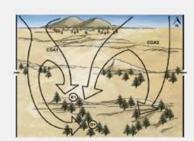
afford cover and concealment for the enemy d. Evaluate lateral routes adjoining each avenue of approach.

2. Determine the enemy scheme of maneuver.

> a. Determine how the enemy will structure the attack.
> b. Determine how the enemy will use his reconnaissance assets.
> c. Determine where and when the enemy will change formations and / or establish support by fire positions.
> d. Determine enemy equipment and





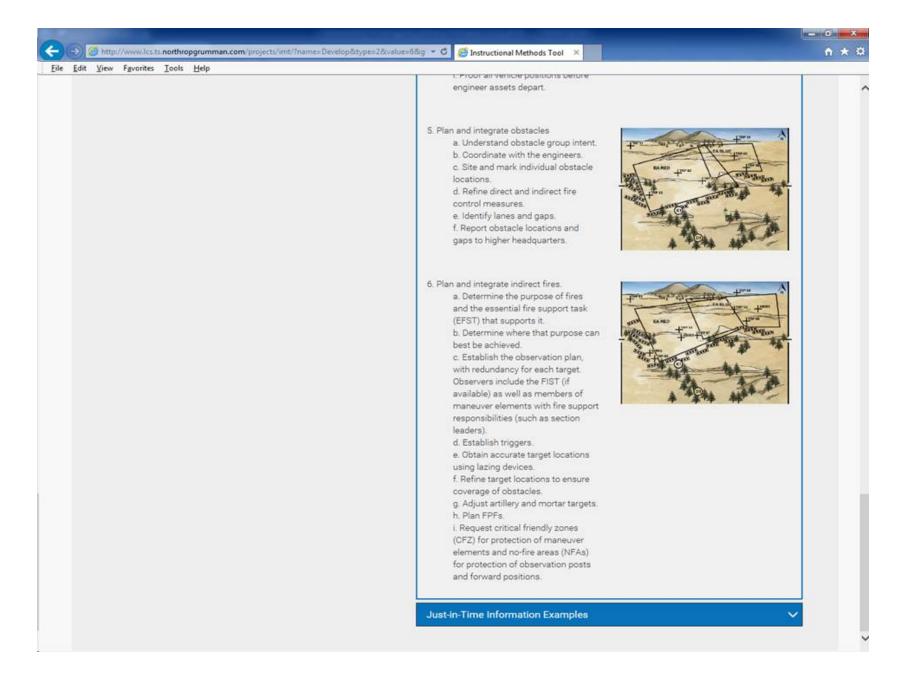


V

Edit View Favorites Iools Help		
Determine Recommend	<ol> <li>Determine the enemy scheme of maneuver.         <ul> <li>a. Determine how the enemy will structure the attack.</li> <li>b. Determine how the enemy will use his reconnaissance assets.</li> <li>c. Determine where and when the enemy will change formations and / or establish support by fire positions.</li> <li>d. Determine enemy equipment and weapons capabilities and where, when, and how the enemy will conduct his assault, breaching operations, and commit follow-on forces.</li> <li>e. Determine the enemy's expected rates of movement.</li> <li>f. Assess the effects of his combat multipliers.</li> <li>g. Determine what reactions the enemy is likely to have in response to projected friendly actions.</li> </ul> </li> </ol>	
	<ol> <li>Determine where to kill the enemy.         <ul> <li>a. Identify target reference points</li> <li>(TRP) that match the enemy's scheme of maneuver, allowing the company to identify where it will engage enemy forces through the depth of the sector.</li> <li>b. Identify and record the exact location of each TRP.</li> <li>c. Determine how many weapons systems, by type, must focus fires on each TRP to achieve the desired effects.</li> <li>d. Determine which platoons will mass fires on each TRP.</li> <li>e. Establish engagement areas around TRPs.</li> <li>f. Develop the direct fire planning measures necessary to focus fires at each TRP.</li> </ul> </li> </ol>	

## 😋 🛞 🧔 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 🔹 🗸 🧔 Instructional Methods Tool 🛛 🗴

Eile Edit View Favorites Iools Help			
	<ul> <li>4. Emplace weapon systems. <ul> <li>a. Select tentative platoon battle positions. (When possible, select these while moving in the engagement area. Using the enemy's perspective enables the commander to assess survivability of the positions.)</li> <li>b. Conduct a leader's reconnaissance of the tentative battle positions.</li> <li>c. Drive the engagement area to confirm that selected positions are tactically advantageous.</li> <li>d. Confirm and mark the selected battle positions.</li> <li>e. Ensure that battle positions do not conflict with those of adjacent units and that they are effectively tied in with adjacent positions.</li> <li>f. Select primary, alternate, and supplementary fighting positions to achieve the desired effect for each TRP in the engagement area.</li> <li>g. Ensure that platoon leaders, platoon sergeants, section leaders, and squad leaders position weapons systems to effectively cover each TRP with the required number of weapons systems (by type) and platoons.</li> <li>h. Site and mark vehicle positions in accordance with unit SOP so engineers can dig in the positions while section leaders supervise.</li> <li>i. Proof all vehicle positions before engineer assets depart.</li> </ul></li></ul>		
	<ol> <li>5. Plan and integrate obstacles         <ul> <li>a. Understand obstacle group intent.</li> <li>b. Coordinate with the engineers.</li> <li>c. Site and mark individual obstacle locations.</li> <li>d. Refine direct and indirect fire</li> </ul> </li> </ol>	to a lot of the second	v



(iew F <u>a</u> vorites <u>I</u> ool	s <u>H</u> elp					
Instructiona	al Methods T	ool				
ſ	Home About	Tool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo
Task Varia	ables	Class	_			
Action Verb	ables	Cocor.	Recommende	d Methods and Seq	uence of Instruction	~
			Key Points fo	Success		~
Develop		<b>`</b>	Facilitator Co	nsiderations		~
Performance	Level					
C6 - Creating			Practical Exe	cise Considerations		~
Definition			Sequence of	nstruction No Pre-C	lass Assignment	~
To create or produ	ice especially by delib	erate effort over time	Analysis/Dev	elopment Example		~
Group Size						
1:16 or less			Just-in-Time	nformation Example	28	~
1:17 or grea	ter		The Facilitator	provides more detailed	information regarding the specific material a	and 🚔
Experience			information to b	e learned.		
New to task	edge, no fundamentals		Obstacle Typ	bes and Effects		
Familiar with	h task k knowledge, underst		— в —	obstacle effort approach or to	tacle effect that integrates fire planning to stop an attacker along a specific ave prevent the attacking force from passi gagement area.	enue of
Definitive task	knowledge, executes i	the fundamentals. The Cognitive		<ul> <li>Disrupt is an o obstacle effort and tempo, in</li> </ul>	bstacle effect that focuses fire planning to cause the enemy to break up his for terrupt his timetable, commit breaching nd attack in a piecemeal effort.	mation
Level					cle effect that focuses fire planning and	
Analyze Approve	Develop Direct	Reorganize Resolve	- F - V	→ obstacle effort	to slow an attacker's movement withir normally an engagement area.	na
Assemble Assess Compare	Draft Edit Establish	Review Revise Schedule	- 1	obstacle effort avenue of app	tacle effect that integrates fire planning to divert an enemy formation from on roach to an adjacent avenue of approa ement area.	e

Edit View Favorites Tool		s/imt/Tname=Develop&type=2&va	lue=58:g 👻 🧭 Instructional Methods Tool 🛛 ×	
For Ten Incurs Ten	. Teb		Fix is an obstacle effect that focuses fire planning	and
Analysis	Develop	0-1-1-1-1	- F-/ / / - obstacle effort to slow an attacker's movement wi	ithin a
Analyze	Develop Direct	Reorganize Resolve	V specified area, normally an engagement area.	
Approve Assemble	Draft	Review	Turn is an obstacle effect that integrates fire plann	dam and
Assess	Edit	Revise	<ul> <li>T obstacle effort to divert an enemy formation from</li> </ul>	
Compare	Establish	Schedule	avenue of approach to an adjacent avenue of app	
Consolidate	Integrate	Secure	into an engagement area.	
Coordinate	Localize	Task	Motorized Rifle Company (BMP) Organization and Equipme	ent
Correlate	Modify	Test		
Counsel	Organize	Troubleshoot	Materiand Diffe	
Deconflict	Plan	Update	Motorized Rifle Company	
Defend	Predict	Validate	7 <sup>(BMP)</sup> 103	
Designate Determine	Project Recommend	Verify	7 105	
Determine	Recommend			
				1.
			Company Machine Gun Motorized	
			Headquarters Platoon Platoo	n
				n
			Headquarters Platoon Platoo (1 - RMP) (2 - RMP) (3 - RMP)	n N
			Headquarters Platoon Platoo (1 - RMP) (2 - RMP) (3 - RMP)	n N
			Headquarters Platoon Platoo 3 <sup>(1 - BMP)</sup> 3 <sup>(2 - BMP)</sup> 16 <sup>(3 - BMI)</sup>	n N
			Headquarters Platoon Platoo 3 (1 - BMP) 3 1 (2 - BMP) 16 1 (3 - BMI Principle Items of Equipment	n <sup>P)</sup> 28
			Headquarters Platoon Platoo 3 (1 - BMP) 3 1 (2 - BMP) 16 1 (3 - BMI Principle Items of Equipment Equipment	P) 28 Total
			Headquarters Platoon Platoo 3 (1 - BMP) 3 1 (2 - BMP) 16 1 (3 - BMI Principle Items of Equipment Equipment 9-mm Pistol	n P) 28 Total 43
			Headquarters     Platoon     Platoon       3     (1 - BMP)     3     1     (2 - BMP)     16     1     (3 - BMI)       Principle Items of Equipment       Equipment       9-mm Pistol       5.45-mm Assault Rifle, AK-74	n P) 28 Total 43 58
			Headquarters     Platoon     Platoon       3     (1 - BMP)     3     1     (2 - BMP)     16     1     (3 - BMI)       Principle Items of Equipment       Equipment       9-mm Pistol       5.45-mm Assault Rifle, AK-74       5.45-mm Light Machine Gun, RPK-74	P) 28 Total 43 58 9
			Headquarters     Platoon     Platoon       3     (1 - BMP)     3     1     (2 - BMP)     16     1     (3 - BMI)       Principle Items of Equipment       Equipment       9-mm Pistol       5.45-mm Light Machine Gun, RPK-74       7.62-mm, Sniper Rifle, SVD	n P) 28 Total 43 58 9 3
			Headquarters       Platoon       Platoon         3       (1 - BMP)       3       1       (2 - BMP)       16       1       0         Principle Items of Equipment         Principle Items of Equipment         9-mm Pistol         5.45-mm Assault Rifle, AK-74         5.45-mm Light Machine Gun, RPK-74         7.62-mm, Sniper Rifle, SVD       Antitank Grenade launcher, RPG-7V	n P) 28 Total 43 58 9 3 9 3 9
			Headquarters       Platoon       Platoon         3       (1 - BMP)       3       1       (2 - BMP)       16       1       0         Principle Items of Equipment       Principle Items of Equipment       Principle Items of Equipment       Platoon       1       0         9-mm Pistol       5.45-mm Assault Rifle, AK-74       5.45-mm Light Machine Gun, RPK-74       7.62-mm, Sniper Rifle, SVD       1       0 </td <td>P) 28 Total 43 58 9 3 9 3 9 12</td>	P) 28 Total 43 58 9 3 9 3 9 12
			Headquarters       Platoon       Platoon         3       (1 - BMP)       3       1       (2 - BMP)       16       1       (3 - BMI)         Principle Items of Equipment         Equipment         9-mm Pistol       5.45-mm Assault Rifle, AK-74         5.45-mm Light Machine Gun, RPK-74       7.62-mm, Sniper Rifle, SVD         Antitank Grenade Iauncher, RPG-7V       Amphibious Infantry Combat Vehicle BMP/BMP-1/BMP-2       7.62-mm General Purpose MG, PKM	P) 28 Total 43 58 9 3 9 3 9 12
			Headquarters       Platoon       Platoon         3       (1 - BMP)       3       1       (2 - BMP)       16       1       0         Principle Items of Equipment         Principle Items of Equipment         Equipment         9-mm Pistol         5.45-mm Light Machine Gun, RPK-74         5.45-mm Light Machine Gun, RPK-74         7.62-mm, Sniper Rifle, SVD         Antitank Grenade Iauncher, RPG-7V         Amphibious Infantry Combat Vehicle BMP/BMP-1/BMP-2         7.62-mm General Purpose MG, PKM         Radios:	P) 28 Total 43 58 9 3 9 12 6
			Headquarters       Platoon       Platoon         3       (1 - BMP)       3       1       (2 - BMP)       16       1       0         Principle Items of Equipment         Principle Items of Equipment         Equipment       9-mm Pistol       9       9       9       9       9       10        10       10 <td>P) 28 Total 43 58 9 3 9 3 9 12 6 5</td>	P) 28 Total 43 58 9 3 9 3 9 12 6 5

## Appendix Y

Military Task Examples C4+C5+C6 – Analyzing, Evaluating, and Creating / Small Group / Proficient with Task

Instructional Methods Tool	
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Variables	Recommended Methods and Sequence of Instruction
Action Verb	
Develop	Choose the method of instruction based on the "Time of Instruction" for the ELO.
Performance Level	Time of Method of Instruction Instruction
C6 - Creating	4-6 hours Perform PEs in small groups that reflect tasks the Soldiers would perform on-the-job. Allow peer-to-peer coaching in in mixed learner groups.
Definition	Facilitator feedback is essential. Multiple Days Test Soldier proficiency and then have then assist in preparing lessons,
To create or produce especially by deliberate effort over time	teaching, and researching for longer assignments
Group Size	
1:16 or less	Key Points for Success
O 1:17 or greater	
Experience	Facilitator Considerations
New to task No task knowledge, no fundamentals.	Practical Exercise Considerations
Familiar with task Preliminary task knowledge, understands fundamentals.	Peer-to-Peer Learning Considerations
	Case Studies 🗸

## Level

Analyze	Develop	Reorganiz
Approve	Direct	Resolve
Assemble	Draft	Review
Assess	Edit	Revise
Compare	Establish	Schedule
Consolidate	Integrate	Secure
Coordinate	Lacelian	Teals

#### File Edit View Favorites Tools Help ACTION VED Key Points for Success Develop · Soldiers must have foundational knowledge, such as remembering facts, Performance Level understanding concepts, and applying knowledge in order to reach a desired level of proficiency with these types of tasks. C6 - Creating · Proficient Soldiers should be able to formulate their own hypotheses, judgments, and Definition solutions for complex problems and be able to defend their logic, rationale, and processes/procedures of their decisions and outcomes. To create or produce especially by deliberate effort over time · Proficient Soldiers should be able to critique and evaluate the assertions of others. · Soldiers should be able to think at a high strategic or operational level, integrate **Group Size** disparate pieces of information, and distinguish between facts and inferences. · Facilitator feedback is essential. 1:16 or less · Facilitators should develop questions based on the desired level of performance. 1:17 or greater · Use the key words in the table below as guides to structure questions and use task content to complete the question. Experience Military Task: Apply the Military Decision New to task Cognitive **Question Key Words** Making Process (MDMP) Task Example No task knowledge, no fundamentals. Level **Questions/Tasks** Familiar with task · What is your estimation for Preliminary task knowledge, understands fundamentals. movement time of the main effort Proficient with task from the TAA to the LD.? Definitive task knowledge, executes the fundamentals. · How does the Go and NoGo terrain on the MCOO affect maneuver for COA C4 -Analyze, Examine, Classify, 2? Other Verbs at the same Cognitive Analyzing Categorize, Determine, etc. Analyze each friendly COA in relation to the enemy's most likely and most Level dangerous COA. · Determine branches and sequels during COA analysis. Analyze Develop Reorganize Approve Direct Resolve · How do you predict the enemy will Assemble Draft Review respond to COA 1? Assess Edit Revise · How would you modify the COAs Plan, Predict, Modify, Change, Compare Establish Schedule based on the war-game results? CS-Improve, Adapt, Combine, Consolidate Integrate Secure · What aspects of each COA can you Creating etc. combine into 1 COA to meet the Coordinate Localize Task commander's guidance? Correlate Modify Test · Create a synchronization matrix. Counsel Organize Troubleshoot Deconflict Plan Update · Prioritize each COA using the Defend, Dispute, Judge, Defend Predict Validate evaluation criteria. C6 -Recommend, Assess, Recommend and defend a COA to the Designate Project Verify Evaluating Conclude, Prioritize, etc. commander Determine Recommend · Facilitators can use the below sequencing techniques to promote learning

Instructional Methods Tool

http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 💌 🗗

÷

- 6 - X

**A** 

↑ ★ <sup>□</sup>

### < 🕢 🥥 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&ty 😁 🗸 🍯 Instructional Methods Tool 🛛 🗴

Eile Edit View Favorites Tools Help

Question Sequencing	g Techniques to Promote Learning		
Extending and lifting – involves asking a number of questions at the same cognitive level, before lifting the level of questions to the next higher level.			
Example	Apply the MDMP Step 2 Mission Analysis		
Extending C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of the operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>		
Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization.</li> </ul>		
Narrow to broad – ask lower level sp general questions	ecific questions, followed by next higher level		
Example	Apply the MDMP Step 4 COA Analysis (War Game)		
Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>		
Broad C2-Understanding Then ask general questions at the next higher level.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>		
Broad to narrow (funneling) – ask lo level specific questions	w level general questions, followed by next higher		
Example	Apply the MDMP Step 4 COA Analysis (War Game)		
Broad C1-Remembering Ask specific questions at the lower level first	<ul> <li>What are the five paragraphs of an OPORD?</li> </ul>		
	Summarize the enemy's composition,		

### <

~

~

<u>File Edit View Favorites Tools Help</u>

Peer-to-Peer Learning Considerat	ions
Practical Exercise Considerations	
acilitator Considerations	
Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>
Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
Example	Apply the MDMP Step 4 COA Analysis (War Game)
Broad to narrow (funneling) – ask lo level specific questions	ow level general questions, followed by next higher
Broad C2-Understanding Then ask general questions at the next higher level.	<ul> <li>Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.</li> </ul>
Narrow C1-Remembering Ask specific questions at the lower level first	<ul> <li>What is the vehicle composition of an OPFOR Mechanized Infantry Company (MECH Inf (IFV) Co)?</li> <li>What are the main offensive weapons of an OPFOR MECH Inf (IFV) Co?</li> <li>What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?</li> </ul>
Example	Apply the MDMP Step 4 COA Analysis (War Game)

Home About Tool	Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Log
Task Variables	Clear	Recommen	ded Methods and Sec	nuence of Instruction	~
Action Verb					
Develop	~	Key Points	for Success		~
Performance Level		Facilitator	Considerations		~
C6 - Creating		Facilitators s	hould:		
Definition				em to analyze existing decisions, premises, a	
To create or produce especially by deliberate effo	ort over time		nes of others. an op-ed or other critique	of the Soldiers' work and be able to defend t	heir own
Group Size		ration	ale.		
1:16 or less		Practical E	ercise Considerations		~
O 1:17 or greater		Fractical E	tercise considerations		
Experience		Peer-to-Pee	r Learning Considerat	tions	~
New to task No task knowledge, no fundamentals.		Case Studie	28		~
Familiar with task     Preliminary task knowledge, understands fund	damentals.	Case Study	Example		~
Preliminary task knowledge, understands fund Proficient with task Definitive task knowledge, executes the funda		_			

Analyze	Develop	Reorganize
Approve	Direct	Resolve
Assemble	Draft	Review
Assess	Edit	Revise
Compare	Establish	Schedule
Consolidate	Integrate	Secure
Coordinate	Lacolina	Teals

~

nstructiona			
	al Methods T	ool	
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L
	Home About	Tool Physical velos	Cognitive verbs Anective bornality internous of instruction crosswalk Aurian E
Task Varia	ables	Clear	Recommended Methods and Sequence of Instruction
Action Verb			
Develop		~	Key Points for Success
Performance	Level	<b>e</b> 11	Facilitator Considerations
C6 - Creating			Practical Exercise Considerations
Definition			PEs for proficient Soldiers could be:
To create or produ	uce especially by delib	erate effort over time	Debates
Group Size			<ul> <li>Contrasting cases</li> <li>Analyses of case studies, policy decisions, and the effects of the second and</li> </ul>
() 1:16 or less			third-order effects and unintended consequences of strategic decisions
1:17 or grea			Assessments
Experience			<ul> <li>The assessment of proficient Soldiers could include requiring Soldiers to create module as the profice that the local of their desiring modules are to create</li> </ul>
New to task			models or otherwise demonstrate the logic of their decision making processes, perform at a very high level with authentic job materials, analyze and use information
$\sim$	edge, no fundamentals	R.	and outputs from complex systems, work on a team of experts to solve complex
O Familiar with	h task		problems, and create their own solutions to complex problems with ambiguous or missing information.
Preliminary tas	sk knowledge, understa	ands fundamentals.	Such capabilities can be demonstrated by
Proficient w			<ul> <li>Briefing stakeholders on their solutions</li> <li>Shadowing Facilitators and other experts</li> </ul>
Definitive task	knowledge, executes i	the fundamentals.	Performing work on-the-job with real equipment and personnel and receiving
		0	feedback from the Facilitators or other mentors (e.g., diagnosing and Performing medical treatment, analyzing complex data and technical
Other Veri	os at the sai	me Cognitive	information, and producing high level intelligence reports)
Level			<ul> <li>Creating models of the effects of organizational processes on personnel, resources, mission outcomes, etc.</li> </ul>
Analyze	Develop	Reorganize	
Approve Assemble	Direct Draft	Resolve Review	Peer-to-Peer Learning Considerations
Assess	Edit	Revise	Case Studies
Compare	Establish	Schedule	
Consolidate	Integrate	Secure	Case Study Example

ew Fgvorites <u>T</u> ool	ls <u>H</u> elp		
nstructiona	al Methods T	ool	
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin
Task Varia	ables	Clear	
Action Verb			Recommended Methods and Sequence of Instruction
Develop		~	Key Points for Success
Performance	Level		Facilitator Considerations
C6 - Creating	Lover		Practical Exercise Considerations
Definition			Peer-to-Peer Learning Considerations
To create or produ	uce especially by delib	erate effort over time	
Group Size			The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals as opposed to the traditional teacher-
1:16 or less			Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights
1:17 or great			through practical experience.
			In this instance, the P2P method of instruction for hands-on tasks is generally used to:
Experience			Increase Soldier time-on-task
<ul> <li>New to task</li> </ul>			Key points to consider.
	edge, no fundamental:	g	<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> </ul>
Familiar with Preliminary tas	n task sk knowledge, underst	ande fundamentale	<ul> <li>The P2P approach takes the Facilitator out of the "expert lecturer" role.</li> </ul>
<ul> <li>Proficient w</li> </ul>		anuo runuarnernaro.	<ul> <li>Facilitators must monitor peer learning to ensure correct information is disseminated.</li> </ul>
<u> </u>	knowledge, executes	the fundamentals.	<ul> <li>Soldier task proficiency must be assessed:</li> </ul>
			<ul> <li>Before – to determine the Soldier's level of understanding/proficiency and identify peer-facilitators</li> </ul>
Other Verl	bs at the sa	me Cognitive	<ul> <li>During – to estimate understanding/proficiency and track progress in</li> </ul>
		and beginned	accomplishing the training objectives
Level			<ul> <li>After – to assess what the Soldier learned</li> <li>P2P training places responsibility on the Soldiers to share ideas and resolve</li> </ul>
Analyze Develop Reorganize		Reorganize	differences.
Approve	Direct	Resolve	
Assemble	Draft	Review	Case Studies
Assess	Edit	Revise	
Compare	Establish	Schedule	

#### http://www.ics.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 💌 🗗 Instructional Methods Tool

#### File Edit View Favorites Tools Help

÷

To create or produce especially by deliberate enort over time

#### Group Size

- 1:16 or less
- 1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

- Familiar with task Preliminary task knowledge, understands fundamentals.
- Proficient with task Definitive task knowledge, executes the fundamentals.

## Other Verbs at the same Cognitive Level

Analyze Develop Approve Direct Resolve Assemble Draft Review Assess Edit Revise Establish Compare Consolidate Integrate Secure Coordinate Localize Task Correlate Modify Test Counsel Organize Deconflict Plan Update Defend Predict Validate Project Designate Verify Determine Recommend

Reorganize Schedule Troubleshoot

#### **Case Studies**

Case studies can provide a basis for developing student's problem-solving and decision 🚔 making skills. Case studies are based on real events, or are a construction of events that could reasonably take place. They tell a story, one involving issues or conflicts that need to be resolved-though most case studies have no obvious or clear solution. The information contained in a case study might be complex (including charts, graphs, and relevant historical background materials) or simple-a human story that illustrates a difficult situation requiring a decision. The Military Staff Ride is one form of case study.

a hanna ana

#### The Military Staff Ride

· A field staff ride is a historical study of a campaign or battle that envisions a systematic preliminary study phase, an extensive field study phase on the actual historic site , and an integration phase to capture the lessons derived from each.

· A virtual staff ride (VSR) follows the same methodology as a field staff ride, but because restrictions preclude a trip to battlefield sites, the terrain is replicated in a virtual environment in the classroom.

The Military Staff Ride Purpose and Objectives

#### General Purpose:

· To further the professional development of U.S. Army leaders

#### Specific Objectives:

- · Expose students to the dynamics of battle.
- · Show the human dimension the "face of battle."
- · Provide case studies in the enduring principles of joint operations.
- · Provide case studies in combined arms operations.
- Show the relationship between technology and doctrine.
- · Provide case studies in mission command and leadership.
- · Provide case studies in unit cohesio.n
- · Show how sustainment affects operations.
- · Show effects of terrain upon plans.
- · Provide analytical framework for battle analysis.
- · Encourage the study of US military history.
- Kindle interest in US Army heritage.

Case studies can be found at http://usacac.army.mil/core-functions/military-history/staff-

rides

#### - 0 -🗲) 🕘 🧟 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&vg 🝷 🖸 Instructional Methods Tool **↑** ★ ₽ File Edit View Favorites Tools Help **Case Study Example** 1:16 or less 1:17 or greater Battle of Wanat Experience New to task No task knowledge, no fundamentals. Familiar with task Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals. Other Verbs at the same Cognitive Level Analyze Develop Reorganize Approve Direct Resolve Assemble Draft Review Assess Edit Revise Compare Establish Schedule On 13 July 2008, nine American Soldiers perished while fighting a pitched battle in the village of Wanat in Afghanistan's Waygal Valley. On that day, the men of Company C, 2d Consolidate Integrate Secure Battalion, 503d Parachute Infantry Regiment endured 4 hours of intense close quarters Coordinate Localize Task combat and mounting casualties. The contingent of 49 United States and 24 Afghan Correlate Modify Test National Army Soldiers valiantly defended their small outpost against a coordinated attack Counsel Troubleshoot Organize by a determined insurgent force armed with rocket propelled grenades and automatic Deconflict Plan Update weapons. Despite the initial advantage of tactical surprise and numerical superiority, it was Defend Predict Validate the insurgents who ultimately broke contact and withdrew from Combat Outpost Kahler. Designate Project Verify Resources Determine Recommend http://usacac.army.mil/core-functions/military-history/staff-rides http://www.benning.army.mil/Library/content/Wanat.pdf http://www.rand.org/content/dam/rand/pubs/occasional\_papers/2011/RAND\_OP329z1.pdf https://www.youtube.com/watch?v=AxrwROErImY Example of a Facilitator's outline requiring Soldiers to analyze and evaluate the outcomes of a historical battle · Background: Operational Orientation of Terrain and Events prior to the Battle of Wanat. · Discussion/View the Afghanistan Valleys (Pech, Korengal, Waygal) that affected and led to the Battle.

 Review of the Events/Background (Operational and Tactical, March 2006-July 2009) that lad up to the battle

🔆 💮 🤣 🧟 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Develop8ttype	=28tvalue=68tg 🝷 🖸 🤮 Instructional Methods Tool 🛛 🗶	n 🛧 🕸
Eile Edit View Favorites Iools Help		
beternine Recommend	http://usacac.army.mil/core-functions/military-history/staff-rides	
	http://www.benning.army.mil/Library/content/Wanat.pdf	
	http://www.rand.org/content/dam/rand/pubs/occasional_papers/2011/RAND_0P329z1.pdf	
	https://www.youtube.com/watch?v=AxrwROErImY	
	Example of a Facilitator's outline requiring Soldiers to analyze and evaluate the outcomes of a historical battle	
	<ul> <li>Background: Operational Orientation of Terrain and Events prior to the Battle of Wanat.</li> <li>Discussion/View the Afghanistan Valleys (Pech, Korengal, Waygal) that affected and led to the Battle.</li> <li>Review of the Events/Background (Operational and Tactical, March 2006-July 2008) that led up to the battle.</li> <li>Analysis: This section gives the framework to understand why the unit is occupying the Village and how the leaders arrive at some of their decisions.</li> <li>Move to Wanat: Tactical Orientation of the Terrain and events</li> <li>Discussion/View of the Village of Wanat that will show where units are located and their fields of vision.</li> <li>Review of the Events (9-12 July) just prior to the attack.</li> <li>View of the Enemy approaches to the Platoon positions.</li> <li>Analysis: Soldiers will review/discuss several leadership issues the unit leaders face as they emplace a defense in Afghanistan.</li> <li>Emplacement of defensive positions</li> <li>Motivation of Soldiers in difficult times</li> <li>Intelligence assessments</li> <li>The Fight: Battle of Wanat (13 July 2008)</li> <li>Discussion/view of the attempts to defend and reinforce OP Topside</li> <li>Discussion/view of the attempts to defend and reinforce OP Topside</li> <li>Discussion/view of the actions during battle</li> <li>Importance of training/initiative during battle</li> <li>Importance of training/initiative during battle</li> <li>Integration Phase</li> <li>Soldiers participate in a discussion that culminates the staff ride by answering two you have seen the terrain?</li> <li>What has changed in your perception of how this battle progressed, now that you have seen the terrain?</li> <li>What teemal insights were gained that you can apply to your future jd/mission?</li> </ul>	

- 0 -X

## Appendix Z

Military Task Examples C4+C5+C6 – Analyzing, Evaluating, and Creating / Large Group / Proficient with Task

Instructional Methods Tool				
Home About Tool Physical Verbs	Cognitive Verbs	Affective Domain	Methods of Instruction Crosswalk	Admin Lo
Task Variables	Pacamman	ded Methods and Sec	wance of Instruction	~
Action Verb	Recomment	deu Metrioda and Sec		<u> </u>
Develop	Experiential L			
Performance Level	Choose the m		ed on the "Time of Instruction" for the ELO.	
C6 - Creating	Time of Instruction	Method of Instruction	1	
Definition	4-8 hours		proups that reflect tasks the Soldiers would p to-peer coaching in in mixed learner groups, essential	
To create or produce especially by deliberate effort over time Group Size	Multiple Days	Test Soldier proficienc	y and then have then assist in preparing less ning for longer assignments.	sons,
1:16 or less				
1:17 or greater	Key Points f	or Success		~
Experience				
O New to task	Facilitator C	considerations		~
No task knowledge, no fundamentals.	Practical Ex	ercise Considerations	3	~
Preliminary task knowledge, understands fundamentals.	Peer-to-Pee	r Learning Considerat	ions	~
Proficient with task Definitive task knowledge, executes the fundamentals.	Case Studie			~
Other Verbs at the same Cognitive	Case Study	Example		~

Anal	yze	Develop	Reorganiz
Appr	ove	Direct	Resolve
Asse	mble	Draft	Review
Asse	55	Edit	Revise
Com	pare	Establish	Schedule
Cons	solidate	Integrate	Secure
Deer	dianta	Localian	Teals

ew Favorites Ic Action Verb	<u>1</u>		-		
Develop		~	Key Points	for Success	
Performance	Level				itional Facilitators are required to achieve the
C6 - Creating		<ul> <li>desired level of proficiency.</li> <li>A large group could be broken into small groups, with those Soldiers who are proficient with</li> </ul>			
Definition				sk acting as Facilitators. ers must have foundational knowled	ige, such as remembering facts, understanding
	ce especially by deliberati	e effort over time	conce	pts, and applying knowledge in ord	er to reach a desired level of proficiency with these
Group Size				of tasks. ient Soldiers should be able to form	ulate their own hypotheses, judgments, and
1:16 or less				ons for complex problems and be a sses/procedures of their decisions	ble to defend their logic, rationale, and and outcomes
<ul> <li>1:10 or less</li> <li>1:17 or great</li> </ul>	ter		Profic	ient Soldiers also should be able to	critique and evaluate the assertions of others.
Experience	eas.			irs should be able to think at a high s of information, and distinguish bel	strategic or operational level, integrate disparate tween facts and inferences.
New to task			105353233	ator feedback is essential.	and an the desired level of a of some
-	edge, no fundamentals.		A CONTRACTOR OF		sed on the desired level of performance. Juides to structure questions and use task content
Familiar with	n task		to con	nplete the question.	
Proficient w	Preliminary task knowledge, understands fundamentals. Proficient with task Definitive task knowledge, executes the fundamentals.		Cognitive Level	Question Key Words	Military Task: Apply the Military Decision Making Process (MDMP) Task Example Questions/Tasks
Other Verbs at the same Cognitive Level Analyze Develop Reorganize Approve Direct Resolve		C4 – Analyzing	Analyze, Examine, Classify, Categorize, Determine, etc.	<ul> <li>What is your estimation for movement time of the main effort from the TAA to the LD.?</li> <li>How does the Go and NoGo terrain on the MCOO affect maneuver for COA 2?</li> <li>Analyze each friendly COA in relation to the enemy's most likely and most dangerous COA.</li> <li>Determine branches and sequels during</li> </ul>	
Assemble Assess	Draft Edit	Review Revise			COA analysis.
Compare Consolidate Coordinate Correlate Counsel Deconflict Defend	Establish Integrate Localize Modify Organize Plan Predict	Schedule Secure Task Test Troubleshoot Update Validate	C5 - Creating	Plan, Predict, Modify, Change, Improve, Adapt, Combine, etc.	<ul> <li>How do you predict the enemy will respond to COA 1?</li> <li>How would you modify the COAs based on the war-game results?</li> <li>What aspects of each COA can you combine into 1 COA to meet the commander's guidance?</li> <li>Create a synchronization matrix.</li> </ul>
Jesignate Jetermine	Project Recommend	Verify	C6 -	Defend, Dispute, Judge,	<ul> <li>Prioritize each COA using the evaluation criteria.</li> </ul>

- 0 - X

~

Recommend, Assess, Conclude,

Prioritize, etc.

· Recommend and defend a COA to the

commander.

Evaluating

### 🔶 😔 🧟 http://www.lcs.ts.northropgrumman.com/projects/imt/Tname=Develop&type=2&value=6&g 🔹 🗸 🥌 Instructional Methods Tool 🛛 🗴

- □ ×

<u>File Edit View Favorites Tools Help</u>

Question Sequencin	g Techniques to Promote Learning
Extending and lifting – involves asking a nu lifting the level of questions to the next high	umber of questions at the same cognitive level, before error error error error error error error error error er
Example	Apply the MDMP Step 2 Mission Analysis
Extending C2-Understanding Ask questions or assign tasks at the lower level first	<ul> <li>Summarize the higher headquarters concept of th operation.</li> <li>Restate your organization's mission as a Task and Purpose statement.</li> <li>What are the differences between specified and implied tasks?</li> </ul>
Lifting C3-Applying Then ask or assign a task at the next higher level to lift the Soldier's level of cognitive learning.	<ul> <li>Identify and list the specified and implied tasks within the OPORD that pertain to your organization</li> </ul>
Narrow to broad - ask lower level specific	questions, followed by next higher level general questions
Example	Apply the MDMP Step 4 COA Analysis (War Game)
Narrow C1-Remembering Ask specific questions at the lower level first	What is the vehicle composition of an OPFOR Mechanized infantry Company (MECH Inf (IFV) Co)?     What are the main offensive weapons of an OPFOI MECH Inf (IFV) Co?     What enabling assets as assigned to an OPFOR MECH Inf (IFV) Co to tailor it as a Company Detachment (CDET)?
Broad C2-Understanding Then ask general questions at the next higher level.	Explain how the enemy would deploy a MECH Inf (IFV) Co as the fixing element during offensive operations.
Broad to narrow (funneling) – ask low leve questions	general questions, followed by next higher level specific
Example	Apply the MDMP Step 4 COA Analysis (War Game)
Broad C1-Remembering Ask specific questions at the lower level first	What are the five paragraphs of an OPORD?
Narrow C2-Understanding Then ask specific questions at the next higher level	<ul> <li>Summarize the enemy's composition, disposition, location, strength, and probable courses of action.</li> <li>Outline a tentative task organization based on the attachments and detachments.</li> <li>Restate the task to subordinate units statement into a mission statement using Who, What, When, Where, and Why</li> </ul>

V

Instructional Methods Tool		
Home About Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin Lo	
Task Variables	Recommended Methods and Sequence of Instruction	
Action Verb		
Develop	Key Points for Success	
Performance Level	Facilitator Considerations	
C6 - Creating	Facilitators should:	
Definition To create or produce especially by deliberate effort over time Group Size	<ul> <li>Assess Soldiers by requiring them to analyze existing decisions, premises, and outcomes of others.</li> <li>Write an op-ed or other critique of the Soldier's work and be able to defend their own rationale.</li> </ul>	
<ul> <li>1:16 or less</li> <li>1:17 or greater</li> </ul>	Practical Exercise Considerations	
Experience	Peer-to-Peer Learning Considerations	
New to task No task knowledge, no fundamentals.	Case Studies 🗸 🗸 🗸	
O Familiar with task	Case Study Example 🗸 🗸	

## Level

Analyze	Develop	Reorganize
Approve	Direct	Resolve
Assemble	Draft	Review
Assess	Edit	Revise
Compare	Establish	Schedule
Consolidate	Integrate	Secure
Coordinate	Lacaliza	Teels

~

iew F <u>a</u> vorites <u>T</u> ool	s <u>H</u> elp			
nstructiona	al Methods T	ool		
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin	
Task Varia	ables	Clear		
Action Verb			Recommended Methods and Sequence of Instruction	
Develop		~	Key Points for Success	
Performance Level			Facilitator Considerations	
C6 - Creating			Practical Exercise Considerations	
Definition			Practical exercises for proficient Soldiers could be:	
To create or produce especially by deliberate effort over time		erate effort over time	Debates	
Group Size			<ul> <li>Contrasting cases</li> <li>Analyses of case studies, policy decisions, and the effects of the second and</li> </ul>	
O 1:16 or less			third-order effects and unintended consequences of strategic decisions Assessments	
1:17 or great	ter		Assessments     Assess proficient Soldiers by requiring them to:	
Experience			Create models or otherwise demonstrate the logic of their decision making	
O New to task			<ul> <li>Perform at a very high level with authentic job materials</li> </ul>	
No task knowledge, no fundamentals.  Familiar with task			<ul> <li>Analyze and use information and outputs from complex systems</li> <li>Work on a team of experts to solve complex problems</li> </ul>	
<ul> <li>Preliminary task knowledge, understands fundamentals.</li> <li>Proficient with task Definitive task knowledge, executes the fundamentals.</li> <li>Other Verbs at the same Cognitive Level</li> </ul>		ands fundamentals.	Create their own solutions to complex problems with ambiguous or missing	
		the fundamentals	information <ul> <li>Demonstrate such capabilities by:</li> </ul>	
		ane nanadrinernana.	<ul> <li>Briefing stakeholders on their solutions</li> <li>Shadowing Facilitators and other experts</li> </ul>	
		me Cognitive	<ul> <li>Performing work on-the-job with real equipment and personnel and receiving feedback from the Facilitators or other mentors (e.g., diagnosing and performing medical treatment, analyzing complex data and technical</li> </ul>	
Analuma	Develop	Decembra	information, producing high level intelligence reports) <ul> <li>Creating models of the effects of organizational processes on personnel,</li> </ul>	
Analyze Approve	Develop Direct	Reorganize Resolve	resources, mission outcomes, etc.	
Assemble	Draft	Review Revise	Peer-to-Peer Learning Considerations	
Assess	Edit			

	s <u>H</u> elp			
nstructiona	l Methods T	ool		
	Home About	Tool Physical Verbs	Cognitive Verbs Affective Domain Methods of Instruction Crosswalk Admin L	
Task Varia	ables	Clear		
Action Verb			Recommended Methods and Sequence of Instruction	
			Key Points for Success	
Develop Performance	Level		Facilitator Considerations	
C6 - Creating	Level		Practical Exercise Considerations	
Definition			Peer-to-Peer Learning Considerations	
To create or produ	ce especially by delib	arate effort over time		
Group Size			The peer-to-peer (P2P) training approach teaches knowledge, skills and attributes through the interaction of equal-status individuals as opposed to the traditional teacher-	
1:16 or less			Soldier relationship. Soldiers learn from other Soldiers who have gained valuable insights	
1:17 or greater			through practical experience.	
Experience			In this instance, the P2P method of instruction for hands-on tasks is generally used to:	
New to task     No task knowledge, no fundamentals.     Familiar with task			Increase Soldier time-on-task	
		C .	Key points to consider.	
			<ul> <li>Facilitators should be knowledgeable about the subject matter.</li> <li>The P2P approach takes the Facilitator out of the "expert lecturer" role.</li> </ul>	
Preliminary task knowledge, understands fundamentals.		ands fundamentals.	Facilitators must monitor peer learning to ensure correct information is	
Proficient w			disseminated. <ul> <li>Soldier task proficiency must be assessed.</li> </ul>	
Definitive task	knowledge, executes i	he fundamentals.	<ul> <li>Before – to determine the Soldier's level of understanding/proficiency and</li> </ul>	
OtherVisel	a at the set	no Ocanitivo	identify peer-facilitators	
	os at the sar	me Cognitive	<ul> <li>During – to estimate understanding/proficiency and track progress in accomplishing the training objectives</li> </ul>	
Level			<ul> <li>After – to assess what the Soldier learned</li> </ul>	
10			<ul> <li>P2P training places responsibility on the Soldiers to share ideas and resolve differences.</li> </ul>	
Analyze	Develop	Reorganize		
Approve Assemble	Direct Draft	Resolve Review	and a second sec	
Assess	Edit	Revise	Case Studies V	
Compare	Establish	Schedule	Case Study Example	
Consolidate	Integrate	Secure		

#### 🗢) 🗩) 🧟 http://www.lcs.ts.northropgrumman.com/projects/intr/Tname=Develop&type=2&value=6&g 🔹 🗸 🧔 Instructional Methods Tool 🛛 🗴

#### File Edit View Favorites Tools Help

To create or produce especially by deliberate effort over time

#### Group Size

- 1:16 or less
- 1:17 or greater

#### Experience

New to task No task knowledge, no fundamentals.

Familiar with task

Preliminary task knowledge, understands fundamentals.

 Proficient with task Definitive task knowledge, executes the fundamentals.

# Other Verbs at the same Cognitive Level

Analyze Develop Approve Direct Assemble Draft Assess Edit Compare Establish Consolidate Integrate Coordinate Localize Correlate Modify Counsel Organize Deconflict Plan Defend Predict Designate Project Determine Recommend Reorganize Resolve Review Revise Schedule Secure Task Test Troubleshoot Update Validate Verify

#### Case Studies

Case studies can provide a basis for developing student's problem-solving and decision making skills. Case studies are based on real events, or are a construction of events that could reasonably take place. They tell a story, one involving issues or conflicts that need to be resolved—though most case studies have no obvious or clear solution. The information contained in a case study might be complex (including charts, graphs, and relevant historical background materials) or simple—a human story that illustrates a difficult situation requiring a decision. The Military Staff Ride is one form of case study.

#### The Military Staff Ride

- A field staff ride is a historical study of a campaign or battle that envisions a systematic preliminary study phase, an extensive field study phase on the actual historic site, and an integration phase to capture the lessons derived from each.
- A virtual staff ride (VSR) follows the same methodology as a field staff ride, but because restrictions preclude a trip to battlefield sites, the terrain is replicated in a virtual environment in the classroom.

The Military Staff Ride Purpose and Objectives

#### General Purpose:

To further the professional development of U.S. Army leaders

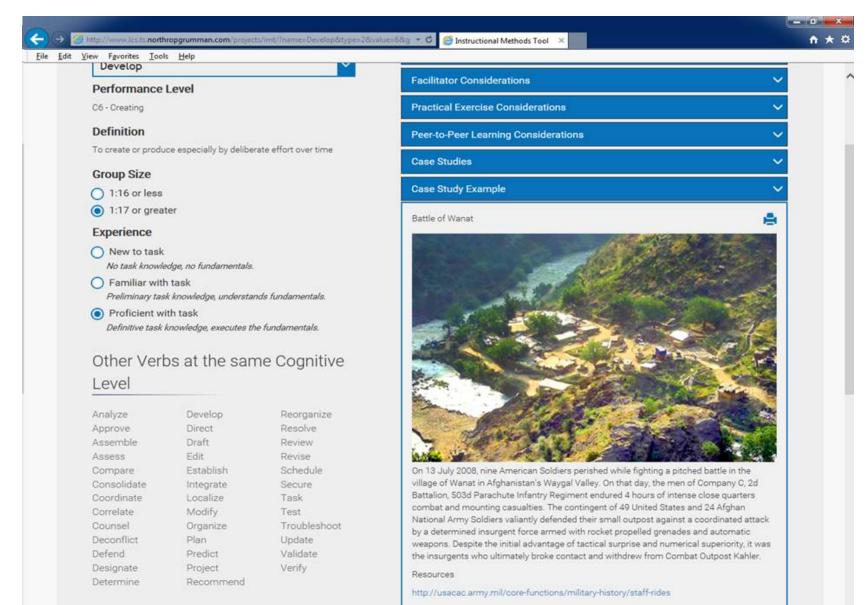
#### Specific Objectives:

- · Expose students to the dynamics of battle.
- · Show the human dimension the "face of battle."
- · Provide case studies in the enduring principles of joint operations.
- Provide case studies in combined arms operations.
- · Show the relationship between technology and doctrine.
- Provide case studies in mission command and leadership.
- Provide case studies in unit cohesio.n
- · Show how sustainment affects operations.
- · Show effects of terrain upon plans.
- · Provide analytical framework for battle analysis.
- Encourage the study of US military history.
- Kindle interest in US Army heritage.

Case studies can be found at http://usacac.army.mil/core-functions/military-history/staff-

rides





http://www.benning.army.mil/Library/content/Wanat.pdf

http://www.rand.org/content/dam/rand/pubs/occasional\_papers/2011/RAND\_OP329z1.pdf

Designate Project Verify	Resources
Determine Recommend	
	http://usacac.army.mil/core-functions/military-history/staff-rides
	http://www.benning.army.mil/Library/content/Wanat.pdf
	http://www.rand.org/content/dam/rand/pubs/occasional_papers/2011/RAND_0P329z1.pdf
	https://www.youtube.com/watch?v=AxrwROErImY
	Example of a Facilitator's outline requiring Soldiers to analyze and evaluate the outcomes of a historical battle
	<ul> <li>Background Operational Orientation of Terrain and Events prior to the Battle of Wanat.</li> <li>Discussion/View the Afghanistan Valleys (Pech, Korengal, Waygal) that affected and led to the Battle.</li> <li>Review of the Events/Background (Operational and Tactical, March 2006-July 2008) that led up to the battle.</li> <li>Analysis: This section gives the framework to understand why the unit is occupying the Village and how the leaders arrive at some of their decisions.</li> <li>Move to Wanat: Tactical Orientation of the Terrain and events</li> <li>Discussion/view of the Village of Wanat that will show where units are located and their fields of vision.</li> <li>Review of the Events (9-12 July) just prior to the attack.</li> <li>View of the Events (9-12 July) just prior to the attack.</li> <li>View of the Events (9-12 July) just prior to the attack.</li> <li>View of the Events (9-12 July) just prior to the attack.</li> <li>View of the Events (9-12 July) just prior to the attack.</li> <li>Soldiers will review/discuss several leadership issues the unit leaders face as they emplace a defense in Afghanistan.</li> <li>Emplacement of defensive positions</li> <li>Intelligence assessments</li> <li>The Fight: Battle of Wanat (13 July 2008)</li> <li>Discussion/view of the attempts to defend and reinforce OP Topside</li> <li>Discussion/view of the attempts to defend and reinforce OP Topside</li> <li>Discussion/view of the attempts to defend and reinforce OP Topside</li> <li>Soldiers will review/discuss several leadership issues the unit leaders face as they execute a defense in Afghanistan.</li> <li>Small unit leader actions during battle</li> <li>Importance of training/initiative during battle</li> <li>Integration Phase</li> <li>Soldiers participate in a discussion that culminates the staff ride by answering two general questions.</li> <li>What teenal insights were gained that you can apply to your future job/mission?</li> </ul>
	Retrieved from http://marshallarmyrotc.org/documents/BattleofWanatVSR-Outline.pdf

203