Knowledge Area Module V:
A Framework for the Pedagogical Evaluation of
Video Game-Based Learning Environments

Richard D. Blunt
Applied Management and Decision Sciences

Student Mentor: Dr. Ruth Maurer

Walden University
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Abstract

This paper develops a theoretical Framework for the Pedagogical Evaluation of Video Game-Based Learning Environments. The framework consists on a new Instructional Systems Design Learning Taxonomy to select video game capabilities based on specified learning objectives. The matrix uses an adaptation of Bloom's Taxonomy of learning updated for the new media of video games. It adds needed research in the area of military game-based learning that the Department of Defense needs that proves, or disproves, the idea that digital game-based learning can improve individual, or collective, performance in the field.

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INTRODUCTION

The term "edutainment" has been used to describe the idea that the commercial entertainment industry has much to teach educators about how learning happens, especially with reference to the allure of computer digital and video games. Games are seen by some educators as a useful and perhaps even necessary learning environment suitable for learners of all ages. However, there are obstacles to this marriage. One issue concerns the translation of "fun" elements in games to settings of institutional learning where intellectual content is king. Adolescent students often complain that they cannot see the relationship between school subjects and real life. Adult learners view the manipulation of teaching strategies for entertainment value as transparent and reject hybrid experiences as patronizing. Critics of educational game design say that products have erred too far in the direction of weightiness and away from the attraction of play. Indeed, "designers have been tempted to hold children's play at arm's length, by referring to games for education as 'serious' games and thus completely different from the idle pastimes of the young" (Corbeil, p. 163).

A theoretical Framework for the Pedagogical Evaluation of Video Game-Based Learning Environments needs to be developed. The framework should consist of a new Instructional Systems Design matrix to select video game capabilities based on specified learning objectives. The matrix should use an adaptation of Bloom's Taxonomy of learning updated for the new media of video games. Also, the framework should provide a way to help rate, categorize, or better understand the context of game design as it applies to learning.

TRADITIONAL LEARNING TAXONOMIES

Bloom's Taxonomy

Before Carl Rogers there was Benjamin Bloom. Bloom's Taxonomy (1956)

classified cognition into a hierarchy of skills ranging from knowledge of specifics to

comprehension, application, analysis, synthesis and lastly, evaluation. Bloom said, "The

major purpose in constructing a taxonomy of educational objectives is to facilitate

communication" (p. 10). Although originally constructed for college-level instructors

and researchers involved in assessment of educational programs, his system was

eventually adapted by elementary and secondary teachers who found it useful in writing

learning objectives that could be measured (see Anderson & Krathwohl, 2001). "We are

of the opinion that although the objectives and test materials and techniques may be

specified in an almost unlimited number of ways, the student behaviors involved in these

objectives can be represented by a relatively small number of classes" (Bloom, p. 12).

Evaluation	appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate
Synthesis	arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write
Analysis	analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, distinguish, examine, experiment, question, test
Application	apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write
Comprehension	classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate
Knowledge	arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state

Table 1: Bloom's Taxonomy of Learning

Anderson & Krathwohl update Bloom

Bloom's use of noun forms to classify levels of intellect reflect the somewhat static thinking of educators in the 1950s; however, he did suggest a shift away from cognition as content by establishing student behavior as a defining criteria. Anderson and Krathwohl (2001, 2002) devised a new version of Bloom's classification system into a multi-dimensional framework that made distinctions in the cognitive domain between process and knowledge, Table 2.

The Knowledge Dimension	The Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Knowledge						
Conceptual Knowledge						
Procedural Knowledge						
Meta-cognitive Knowledge						

Table 2: Knowledge Domain

In this new Taxonomy, Bloom's original six levels remain, now stated in action verbs, with one modification and one addition.   Anderson and Krathwohl ranked the process categories from the simplest to most complex activities, reversing Bloom's "Synthesis" and "Evaluation" and reframing the ultimate intellectual experience of synthesis within a creative realm. "Simply stated, induction, which is involved in Creating, is a more complex process than deduction." (2001, p. 294). In the knowledge dimension, they also followed Bloom's thinking but changed the levels to range from basic factual knowledge (what) to conceptual (why) and procedural (how) knowledge to

the new category of meta-cognitive knowledge, which they defined as "Knowledge of cognition in general as well as awareness and knowledge of one's own cognition." (p. 29). Meta-cognitive awareness and creative intellectual activity, therefore, represent the highest functioning in the cognitive domain, according to the followers of Bloom and within the framework of a taxonomy of cognition.

FRAMEWORK FOR THE PEDAGOGICAL DESIGN AND EVALUATION OF

VIDEO GAME-BASED LEARNING ENVIRONMENTS

Game-Based Learning Taxonomy Model

The new model uses a combination of both nouns and verbs to aid in the game genre choice. In this new taxonomy, two of Bloom's original six levels remain, now stated in action verbs, in addition to five new levels. Each level has several "example" learning objective verbs. Each level, with its accompanying learning verbs, aligns itself to one or more game genres by the very nature of the learning verb itself.

The model is designed so that actual learning verbs can be placed in the proper level directly from the learning objective sentence. The subject noun should be placed in the adjacent "content" field. From the levels and learning verbs, you derive game genre. From the learning "nouns," you get game content and/or subject.

Another facet of the new taxonomy is context independency or context dependency. The first two levels, information recall and understanding, are considered context independent because there are no meta-cognitive processes involved such as synthesis or evaluation. Levels 3-7, however, are dependent on the context of the situation or experience the learner finds themselves in. Table 3 on the next page illustrates the new Game-Based Learning Taxonomy.

	Learning Verb	Learning Nouns	Game Styles	
Evaluation	appraise, assess, choose, criticize, evaluate, examine, judge, predict, question, rate, test	compare and discriminate between ideas, assess value of theories, make choices based on reasoned argument, verify evidence, recognize subjectivity	• strategy games • role-play games • simulation games • mystery games	Context Dependent
Creativity	attack, control, defend, direct, engage, ensure, guide, implement, lead, manage, neutralize, observe, order, practice, supervise, train	use old ideas to create new ones, generalize from given facts, relate knowledge from several areas, predict, draw conclusions	• strategy games • role-play games • simulation games • mystery games • adventure games	
Performance	compose, construct., coordinate, design, develop, dramatize, organize, plan, prepare, process, propose, schedule, set up	follow instructions, progress to objectives, accomplish project goals, implement a strategy, make money	• strategy game • detective games • mystery games • simulation games • invention games	
Analysis	argue, classify, compare, contrast, determine, distinguish, estimate, experiment, formulate, interpret, recommend, solve	seeing patterns, organization of parts, recognition of hidden meanings, identification of components	• strategy games • adventure games • mystery games • puzzles • open-ended simulation • construction games • building games	
Skill Development	adjust, arrange, assemble, attach, calculate, collect, duplicate, employ, fire, install, locate, maintain, operate, use	use information, use methods, concepts, theories in new situations, solve problems using required skills or knowledge	• persistent state games • role-play games • adventure games • timed games • reflex games	
Understanding	categorize, define, describe, differentiate, discriminate, discuss, explain, express, illustrate locate, relate, translate	Understanding information, grasp meaning, translate knowledge into new context, interpret facts, compare, contrast, order, group, infer causes	• open ended simulation • role-play games • adventure games • strategy games • construction games • building games	Context Independent
Information Recall	identify, indicate, label, list, memorize, name, recognize, repeat, restate, review, select, state, value	observation and recall of information, knowledge of dates, events, places, knowledge of major ideas, mastery of subject matter	• game show competition • flash card games • mnemonics action games • reflex games	

Figure 1: Game-Based Learning Taxonomy

ABOUT THE APPLICATION'S CHOICE OF THE VIDEO GAME FOR
EVALUATION

America's Army

America's Army is a first-person shooter role playing video game developed by

the U.S. Army and is available for free. Originally conceived as a tool to increase

recruiting, the game evolved into a 24/7 session-by-session online gaming environment.

Players can now go through virtual boot camp training both individually and collectively.

Since its release on July 4, 2002, more than 2.5 million players have downloaded and

registered to play the game online completing more than 40 million hours playtime.

Players can experience the Army from boot camp all the way through fighting the war on

terror. Appendix A gives a detailed explanation of each "mission" scenario available to

play.

U. S. Army MOS 11B: Infantryman Terminal Learning Objectives

To evaluate the new learning taxonomy, The learning objectives for the U. S.

Army Military Occupational Specialty (MOS) 11B Infantryman will be used to evaluate

the learning taxonomy. The infantryman supervises, leads, or serves as a member of an

infantry activity that employs individual or crew served weapons in support of offensive

and defensive combat operations. Duties for MOS 11B at each level of skill are (Army,

1999, p 206-207):

MOSC 11B10

1. Assists in the performance of reconnaissance operations.

2. Employs, fires, and recovers anti-personnel and anti-tank mines.

3. Locates and neutralizes mines.

4. Operates, mounts/dismounts, zeros, and engages targets using night vision sight.

5. Operates and maintains communications equipment and operates in a radio net.

6. Operates in a NBC contaminated area.

7. Constructs field expedient firing aids for infantry weapons.

8. Performs as a member of a fire team during a movement to contact, reconnaissance, and security, an attack, defense, situational training exercises and all infantry dismounted battle drills.

9. Processes prisoners of war and captured documents.

MOSC 11B20

1. Performs duties shown in preceding level of skill.

2. Leads an infantry team in combat operations, providing tactical and technical guidance to subordinates and professional support to both superiors and subordinates in the accomplishment of their duties.

3. Leads, supervises, and trains subordinate personnel.

4. Calls for and adjusts indirect fire.

5. Evaluates terrain and selects weapon emplacement.

6. Controls organic fires.

7. Installs and recovers anti-handling devices on anti-tank mines and electrical and non-electrical demolition charges.

8. Supervises construction of hasty fortifications and receipt, storage, and issue of ammunition.

9. Records operational information on maps.

10. Receives and implements combat orders, directs deployment of personnel in offensive, defensive, and retrograde operations.

11. Requests, observes, and adjusts direct supporting fire.

12. Evaluates terrain and supervises the emplacement of sighting and firing all assigned weapons.

13. Uses maps and map overlays, performs intersection and resection, and determines elevation and grid azimuths.

14. Leads a fire team during a movement to contact, reconnaissance and security, an attack, defense, situational training exercises, and all infantry dismounted battle drills.

MOSC 11B30

1. Performs duties shown in preceding level of skill.

2. Leads an infantry squad and/or a reconnaissance (scout) team during combat operations.

3. Supervises tactical deployment of assigned element in offensive, defensive, and retrograde operations.

4. Provides tactical and technical guidance to subordinates and professional support to both subordinates and superiors in the accomplishment of their duties.

5. Receives and issues orders.

6. Coordinates action of the element with adjacent and support elements and organic and supporting fire power.

7. Ensures collection and proper reporting of intelligence data to unit.

8. Adjusts aerial fire support.

9. Analyzes terrain.

10. Conducts tactical operations for a squad, operations of a patrol base, and NBC operations.

11. Maintains operational security.

12. Prepares, operates, and maintains secure communications equipment.

13. Leads a squad during movement to contact, reconnaissance and security, an attack, defense situational training exercises, and all infantry dismounted battle drills.

MOSC 11B40

1. Performs duties shown in preceding level of skill.

2. Supervises an infantry or reconnaissance (scout) platoon in combat operations and intelligence information gathering.

3. Leads a platoon during a movement to contact, reconnaissance and security, an attack defense, situational training exercises, and all infantry dismounted battle drills.

4. Provides tactical and technical guidance to subordinates and professional support to both subordinates and superiors in the accomplishment of their duties.

5. Supervises the occupation of an assembly area.

6. Employs NBC defensive teams.

7. Plans for, supervises preparation of, and conducts NBC operations.

8. Performs battle damage assessment.

9. Develops a platoon training plan.

MOSC 11B50

1. Performs duties shown in preceding level of skill.

2. Supervises an infantry company in combat.

3. Plans, coordinates, supervises, and participates in activities pertaining to organization, training, combat operations, and intelligence of units at battalion or higher.

4. Provides tactical and technical guidance to subordinates and professional support to both subordinates and superiors in the accomplishment of their duties.

5. Serves as the principal noncommissioned officer in an infantry company; supervising the processing of operations and intelligence information in an infantry battalion or higher level unit.

EVALUATION OF AMERICA'S ARMY FOR TRAINING THE MOSC 11B10 USING

THE GAME-BASED LEARNING TAXONOMY

Machinima Demonstration

Table 4 provides several streaming video examples of *America's Army* used in

this evaluation and may be found at www.rickblunt.com/phd/kam_v_application.htm. To

view these demonstrations, you should use the Windows Media Player.

• Rise of a Soldier	
• Basic Rifle Training low resolution • Basic Rifle Training high resolution	• Obstacle Course Training low resolution • Obstacle Course Training high resolution
• Weapons Familiarization Training low resolution • Weapons Familiarization Training high resolution	• Mission #1: Bridge Crossing low resolution • Mission #1: Bridge Crossing high resolution
• Mission #2: Bridge Crossing low resolution • Mission #2: Bridge Crossing high resolution	• Mission #3: Bridge Crossing low resolution • Mission #3: Bridge Crossing high resolution

Table 3: Streaming Video Examples

Application

Inserting the learning verbs and nouns from the MOS 11B learning objectives into

the taxonomy yields the game type most appropriate to choose for a learning

environment. Since *America's Army* fits the role-playing and simulation genres metered

out by the taxonomy, the next step is to "play" the game to see all the learning nouns and

verbs can be taught. Tables 5-9 on the next pages provide a summary evaluation. Tables

5-9 uses the Stoplight Scoring System widely used in both government and private sector organizations. The scorecard employs a simple grading system common today in well run businesses:

🟢 Green for success   🟡 Yellow for mixed results   🔴 Red for unsatisfactory

	Verbs	Nouns	Genre	Score
Evaluation	N/A	N/A	N/A	N/A
Creativity	N/A	N/A	N/A	🟢
Performance	1. Assists, performance	1. reconnaissance operations	• role-play games • simulation games	🟢
	7. Constructs	7. field expedient firing aids for infantry weapon	• role-play games • simulation games • invention games	🟢
	8. Performs, movement, attack, defend	8. fire team	• role-play games • simulation games	🟢
	9. Processes	9. POWs and captured documents	• role-play games • simulation games	🟡
Analysis	N/A	N/A	• N/A	N/A
Skill Development	2. Employs, fires, recovers	2. anti-personnel and anti-tank mines	• role-play games • simulation games	🟡
	3. Locates, neutralizes	3. mines	• role-play games • simulation games	🟡
	4. Operates, engages	4. targets using night vision sight	• role-play games • simulation games	🟢
	5. Operates, maintains	5. communications equipment in a radio net	• role-play games • simulation games	🟡
	6. Operates	6. NBC contaminated area	• role-play games • simulation games	🔴
Understanding	N/A	N/A	• N/A	N/A
Information Recall	N/A	N/A	• N/A	N/A

The Stoplight Scoring System
The scorecard employs a simple grading system common today in well-run businesses:

🟢   Green for success   🟡   Yellow for mixed results   🔴   Red for unsatisfactory

Table 4: MOSC 11B10 Game-Based Learning Evaluation

	Verbs	Nouns	Genre	Score
Evaluation	• Evaluate	• Terrain	• strategy games • role-play games • simulation games • mystery games	🟢
Creativity	• Lead • Leads, support, trains • Controls • Supervises • Directs • Leads	• Infantry team • Subordinate personnel • Organic fire • Receipt, storage, issue of ammunition • Personnel • Fire team	• strategy games • role-play games • simulation games • mystery games • adventure games	🟢
Performance	• Calls, adjusts • Selects • Implements • Use/perform	• Indirect fire • Weapons emplacement • Combat orders • Maps	• strategy game • detective games • mystery games • simulation games • invention games	🟢 🟢 🟢 🟢
Analysis	• Determine	• Elevation and grid azimuths	• strategy games • adventure games • mystery games • puzzles • open-ended simulation • construction games • building games	🟢
Skill Development	• Installs/recovers • Records	• Anti-handling devices on anti-tank mines • Map	• role-play games • simulation games	🔴 🟡
Understanding	• N/A	N/A	• N/A	N/A
Information Recall	• N/A	N/A	• N/A	N/A

Table 5: MOSC 11B20 Game-Based Learning Evaluation

	Verbs	Nouns	Genre	Score
Evaluation	• Leads • Leads	• Reconnaissance scout team • Squad movement to contact	• strategy games • role-play games • simulation games • mystery games	🟢
Creativity	• Supervises	• Offensive/defensive tactical operations	• strategy games • role-play games • simulation games • mystery games • adventure games	🟢
Performance	• Receives/issues • Coordinates • Ensures • Maintains • Conducts	• Orders • Action elements • Reporting of intelligence • Operational security • NBC tactical squad operations	• strategy game • detective games • mystery games • simulation games • invention games	🟢 🔴
Analysis	• Adjusts	• Aerial fire support	• strategy games • adventure games • mystery games • puzzles • open-ended simulation • construction games • building games	🔴
Skill Development	• Operates	• Secure communications equipment	• persistent state games • role-play games • adventure games • timed games • reflex games	🔴
Understanding	• N/A	• N/A	• N/A	N/A
Information Recall	• N/A	• N/A	• N/A	N/A

Table 6: MOSC 11B30 Game-Based Learning Evaluation

	Verbs	Nouns	Genre	Score
Evaluation	• Assesses	• Battle damage	• strategy games • role-play games • simulation games • mystery games	🔴
Creativity	• Leads	• Platoon movement to contact	• strategy games • role-play games • simulation games • mystery games • adventure games	🔴
	• Leads	• Reconnaissance platoon in combat operations		
	• Supervises	• Information gathering		
	• Provides	• Tactical guidance		
	• Supervises	• Occupation of assembly area		
Performance	• Employs	• NBC defensive teams	• strategy game • detective games • mystery games • simulation games • invention games	🔴
	• Develop	• Training plan		
Analysis	N/A	N/A	• N/A	N/A
Skill Development	N/A	N/A	• N/A	N/A
Understanding	N/A	N/A	• N/A	N/A
Information Recall	N/A	N/A	• N/A	N/A

Table 7: MOSC 11B40 Game-Based Learning Evaluation

	Verbs	Nouns	Genre	Score
Evaluation	N/A	N/A	• N/A	N/A
Creativity	• Supervises	• Company in combat	• strategy games • role-play games • simulation games • adventure games	🔴
	• Supervises	• Intelligence processes		
	• Plans	• Battalion or higher level		
Performance	• Provides	• Tactical guidance	• strategy game • detective games • mystery games • simulation games	🔴
	• Serves	• Company NCO		
Analysis	N/A	N/A	• N/A	N/A
Skill Development	N/A	N/A	• N/A	N/A
Understanding	N/A	N/A	• N/A	N/A
Information Recall	N/A	N/A	• N/A	N/A

Table 8: MOSC 11B50 Game-Based Learning Evaluation

Evaluation

America's Army video game is a very immersive, 3-D, real-time role playing game. Before deploying to one of the 23 missions, a "soldier" needs to complete basic rifle, obstacle course, weapons familiarization, and pass a Military Operations in Urban Terrain (MOUT) scenario. The game is squad-based, meaning up to no more than eight players in a squad per "side" for a total of 16 players online at any time. At the Fire Team, four players, and the Squad level, eight players, the game does a good job of providing familiarization with small team tactics. Only one MOS 11B10 learning objective, operating in Nuclear / Biological / Chemical contaminated areas is not covered by any of the 23 missions. The usefulness of the game for training purposes wanes through MOS 11B20 and 11B30. At 11B40, platoon level, and 11B50, company and battalion levels, the game no longer provides useful training because it does not support platoon and company level numbers of players.

ENDORSEMENT

Mark Oehlert is the Director of Learning Innovation for the MASIE Center, an international e-lab and Think Tank located in Saratoga Springs, NY. He worked inside the Pentagon for more than five years specifically for the Office of Readiness and Training in the Office of the Secretary of Defense on both the Advanced Distributed Learning (ADL) initiative and the Training Transformation (T2) effort. Additionally he helped create the ADL Game Research Lab and has been a technical reviewer for studies attempting to set direction for the future use of gaming within the Department of Defense. Mr. Oehlert evaluated the new Game-Based Learning Taxonomy and its use to evaluate the efficacy of *America's Army* as a training platform. These are his comments:

> This work is definitely what the game-based learning community has been looking for for some time. The game-based learning taxonomy fills the gap between traditional instructional design theory and what we've been seeing with game-based learning. This body definitively adds to the scholarly research in a field in desperate need of same. It provides a pedagogically sound framework from which to evaluate COTS (commercial off the shelf) video games for adaptation to military training. Not only that, it gives us an instructionally sound framework from which to design original video games for learning. Up until now, most game-based learning has taken the COTS adaptation route because of a lack of just such a model to help us design from the ground up. This is absolutely a large step forward for the game-based-learning domain.

CONCLUSION

The Game-Based Learning Taxonomy is a theoretical framework for the pedagogical evaluation of video game-based learning environments. The framework consists of a new instructional systems design learning taxonomy to select video game capabilities based on specified learning objectives. The matrix uses an adaptation of Bloom's Taxonomy of learning updated for the new media of video games. It adds definitive research in the badly needed area of military game-based learning that the Department of Defense needs that proves, or disproves, the idea that digital game-based learning can improve individual, or collective, performance in the field. Also, the framework provides a way to help rate, categorize, or better understand the context of game design as it applies to learning.

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APPENDIX A: U. S. ARMY MOS 11B: INFANTRYMAN TERMINAL LEARNING OBJECTIVES

Infantry Training Brigade

McKenna MOUT

- Mission: Squad "Loyalty" will secure three objectives located in the church and blue and white buildings. Your team must successfully achieve the mission objective to graduate from Infantry training and proceed to your unit of assignment.

172nd Separate Infantry Brigade

Pipeline

- Here on the pipeline map, you will conduct operations in Alaska, along the Alaskan pipeline. This map is primarily short range combat, and is live fire. You will be equipped with M16A2's, M203's, M249's, frag grenades, stun grenades, and smoke grenades. You will also have access to night vision goggles.
- Mission: Squad will seize Alaskan Pipeline station at grid WA542679 and accomplish one of the following: secure the main control panel; stop the flow of oil into the pumps at the three valve controls.
- Terrain: Alaskan Pipeline Pump Station consisting of three structures; the pump station, the exterior oil tanks and a one story out-building housing the emergency shut off valve.

Bridge Crossing

- On this map, elements of the 172nd Sep Bde find themselves on a bridge. Hostile forces are in the area. The bridge is the only route therefore you must fight in confined spaces. Be careful of blindly throwing hand grenades, as you may injure your teammates. Additionally, either side of the bridge are catwalks. These are accessible, however care must be taken, since it is a long drop to the bottom, and you are not equipped with a parachute. Available weapons are the M16A2, M249, M203, M24, and M82A1. Additionally you will be equipped with frag grenades, stun grenades and smoke grenades.
- Situation: Enemy forces posing as refugees have attacked the U.S. forces defending bridge at grid WS663429. Your squad, returning from patrol, is now on hostile side of bridge, and must link up with company HQ to pass along time-sensitive information.
- Mission: Your squad must pass vital intel to company HQ located grid WS763529 on east side of bridge.
- Terrain: High-altitude stone bridge provides the only passable route to the east. Adverse weather conditions prevent close air support. Bridge towers constitute key terrain.

Bridge Crossing SE

- Bridge Crossing SE, provides you with a larger Bridge Crossing map, allowing you access to portions of Bridge Crossing that were not available in the first build. You can now go around and under the bridge, in addition to going across. Also the fog has been reduced, allowing you to see targets at longer ranges than before. Therefore care must be taken when exposing yourself, since enemy advanced marksman may be around. Available weapons are the M16A2, M249, M203, M24, and M82. Additionally you will be equipped with frag grenades, stun grenades and smoke grenades.
- Situation: Enemy forces posing as refugees have attacked the U.S. forces defending bridge at grid WS663429. Your squad, returning from patrol, is now on hostile side of bridge, and must link up with company HQ to pass along time-sensitive information.
- Mission: Your squad must pass vital intel to company HQ located grid WS763529 on east side of bridge.
- Terrain: High-altitude stone bridge provides the only passable route to the east. Adverse weather

Mountain Pass

- Mountain Pass takes place after either of the Bridge Crossing maps. The terrain here is alpine, with large mountains, chasms, and pine trees. Be careful here since you can fall into the chasm and injure or kill yourself. The defending force on this map has an advantage, therefore assault must make coordinated attacks in order to succeed. The available weapons on this map, are the M16A2, M203, M249, M24, and M82. Additionally fragmentation grenades, smoke grenades, and stun grenades are available.
- Situation: After securing the bridge, your squad was ordered to recover supplies lost during an ambush of a U.S. Convoy at grid WS663433.
- Mission: First squad, secure U.S. Convoy at grid WS663433, and patrol surrounding area for remaining enemy forces.
- Terrain: High-altitude mountain road twisting around a chasm. Adverse weather conditions (high winds and fog) prevent air support. Sparse vegetation and rocky cliffs with snow covered ledges.

Urban Assault

- This is an urban environment, therefore field of view, and movement are restricted. Additionally, engagements can be done in three dimensions, such as the horizontal, or the vertical (e.g.: being shot at from a 2-story building). Therefore extreme care must be taken when transversing the streets. The objective of this map is to seize the objectives before the OPFOR.
- Situation: A coalition convoy was raided and the cargo was stolen. It has been confirmed that the insurgents and the cargo are based in a residential area of the city. Due to the dense urban nature of the area it will be necessary to do a house by house assault on foot.

- Mission: A squad from the 172nd Sep. Infantry BDE must conduct an assault to take and hold objectives cargo ALPHA and BRAVO. Once objectives are captured wait for arrival of friendly reinforcements to transport cargo.
- Terrain: Dense Urban mudbrick and stone housing. Thin alleys, mostly 1 story buildings with pockets of 2 story buildings. Surrounded by larger government buildings.

Mountain Pass SE

- This is the special edition version of the original Mountain Pass map. This map is larger, providing an additional objective, and new routes. Fog has been reduced on this map, therefore beware of advanced marksman. The available weapons on this map, are the M16A2, M203, M249, M24, and M82A1. Additionally fragmentation grenades, smoke grenades, and stun grenades are available.
- Situation: After securing the bridge, your squad was ordered to recover supplies lost during an ambush of a U.S. Convoy at grid WS663433.
- Mission: First squad, secure U.S. Convoy at grid WS663433, and patrol surrounding area for remaining enemy forces.
- Terrain: High-altitude mountain road twisting around a chasm. Adverse weather conditions (high winds and fog) prevent air support. Sparse vegetation and rocky cliffs with snow covered ledges.

10th Mountain Division

HQ Raid

- This is a night training map, in a woodland setting. MILES weapons are used, and only the assaulting team is equipped with night vision goggles. The defensive team must rely on the existing light available around the headquarters. There are existing structures that may provide cover, therefore both teams should take full advantage of the natural and man made cover, as well as the cover of darkness. The standard MILES weapons are available such as the M16A2, M249, MILES grenades, and smoke grenades.
- *Offence*
    - Situation: While performing contingency operations, local population has informed your unit of a U.S. Soldier being held by insurgent forces at grid WN172773. ROE: Positively identify all targets in compound due to presence of U.S. prisoner.
    - Mission: First squad extract POW at enemy field HQ, grid WN172773.
    - Terrain: HQ is located in a lightly forested valley. HQ is well-lit area consisting of 2-4 frame constructed one-story wooden buildings. Prisoner is expected to be held in the center of the compound.
- *Defense*
    - Situation: While performing contingency operations, your unit captured an officer who will be transported to higher headquarters.

o   Mission: Secure EPW holding area at grid WN172773 until transport arrives. Remember, under the laws of land warfare you are responsible for safeguarding the EPW. The EPW is secured in a holding cell in the center of the compound.
o   Terrain: Field HQ is located in a lightly forested valley.

Collapsed Tunnel

- The collapsed tunnel map is another training map, which allows you to experience short range combat in a whole new dimension. MILES weapons are used, and you are equipped with night vision goggles, and the standard MILES weapons.
- Training Situation: Training Exercise using MILES. In the coming month your unit will deploy to an area where enemy forces are known to hide in tunnels. To prepare, your unit will conduct a training exercise in the National Response Training Center tunnel facility using MILES.
- Training Mission: Isolate and defeat enemy forces within the tunnel complex.
- Terrain: Tunnel is comprised of two 2-lane tunnels that are collapsed at each end, with a network of maintenance access tunnels creating a labyrinth below.

Insurgent Camp

- A desert is the setting for this map. Combat will be both outdoors and indoors therefore you will most likely need to be efficient in your CQB, and open combat skills. Here you can use the Colt M4 Carbine, if you choose to be a rifleman class. The M4 Carbine is similar a smaller assault rifle with 80 percent commonality with its older brother, the M16A2. Mountainous terrain, and darkness provide cover for both sides. Therefore players must be careful where they are throwing grenades.
- Situation: Intelligence reports that a terrorist planning cell and training camp is active at grid WQ038333.
- Mission: First squad secures computer terminal at grid US123456, in order to gather intelligence information about future terrorist action.
- Terrain: Enemy camp located in high desert with rolling sand dunes and wadis. Camp consists of ruined multi-story building serving as headquarters, with training camp on western flank. Tunnel system enables both rapid reinforcement and alternate entrance to building. Intel indicates this entrance is to the south of the compound.

River Basin

- River Basin is a MILES training map. It is set in very open and hilly terrain. MILES weapons are used. It must be noted that this map is very large and contains very little landmarks. Therefore good use of the compass would be very helpful in navigating around this map.
- Situation: Intelligence reports that a terrorist force has taken control of a logistical supply point at grid KD914347.
- Mission: First squad, plant demo charges under the HEMTT (Heavy Expanded Mobile Tactical Truck) to the North, South and West of grid KD914347.

- Terrain: Heavily rutted / eroded forest lowlands offer cover and concealment.

82nd Airborne Division

FLS

- FLS stands for field landing strip. This map takes place at an airstrip in the middle of the night. The only light comes from the FLS's runway lights. Assault will parachute out of a C-17 Globemaster while defense will defend the airstrip.
- Situation: As part of a larger attack your squad will seize the FLS by gaining control of the hangar facility at grid IN193999, east of the DZ (Drop Zone).
- Mission: First squad seize the FLS by gaining control of the hangar facility at grid IN193999.
- Terrain: Field Landing Strip (FLS) located in slightly forested area. The FLS is well-lit area consisting of one small hangar protected by two trench systems on either side supported by bunkers. Surrounding the FLS is a fenced minefield.

FARP Raid

- The FARP or Forward Air Refueling Point Raid takes place at the Joint Readiness Training Center (JRTC). This facility is the state of the art U.S. Army warfare training center, allowing Soldiers to conduct combat simulations in all types of terrain including MOUT. FARP Raid is set in a farm environment, at night, and in high fog. Therefore care must be taken with grenades, even though you are using MILES weapons.
- Situation: As part of a larger attack your squad will seize a Forward Area Rearm and Refuel Point (FARP) and destroy enemy helicopter at grid IP201887, south of the DZ (Drop Zone).
- Mission: Third squad seize the Forward Area Rearm and Refuel Point (FARP) and destroy enemy helicopter at grid IP201887.
- Terrain: Flat cultivated fields surround a farm house, barn and four other smaller structures which are used to store supplies for rearming and refueling rotary wing aircraft.

75th Ranger Regiment

Mountain Ambush

- During the mountain phase of training to become a U.S. Army Ranger, you will use MILES gear to conduct operations in mountainous woodland terrain. In this phase Ranger candidates execute light patrol missions and conduct field training exercises in a low intensity environment.
- Situation: Intelligence reports small insurgent units will perform reconnaissance patrols of sites Alpha (grid WC951165), Bravo (grid WC940158), and Charlie (grid WC937150).
- Mission: Conduct ambushes of insurgent forces in vicinity of sites Alpha, Bravo, and Charlie.

- Terrain: Mountainous terrain with sparse vegetation. Dry riverbeds and hills provide compartmentalized terrain which affords squad with multiple ambush positions with overwatch.

Swamp Raid

- In the Florida phase of Ranger training, you will conduct operations in swamps. Swamp Raid was made to reflect this. This is a night time MILES map, consisting of an island surrounded by swamp. Defense on this map does not have night vision goggles. However assaulting forces do.
- Situation: Insurgent forces have established a command post at grid WD120564.
- Mission: First squad move to island by zodiac raft, raid the command post and retrieve plans and documents.
- Terrain: Post rests on a small island within a swamp. Post perimeter consists of multiple guard towers and a fenced perimeter. Perimeter interior holds numerous tents. The command tent is centrally located within the camp.

Weapons Cache

- The weapons cache is the first live fire Ranger map. This map takes place in a shipping receiving center and storage facility that is holding man portable air-defense systems (MANPADS). This mission will also provide you with the M4A1 Carbine with the 2x reflex scope attachment. Since this map will be primarily short range combat, no advanced rifles are available. Vents for the air ducts are good hiding spots for veteran players of this map.
- Situation: Intelligence reports that an illegal arms dealer is planning to transfer anti-aircraft weaponry to an agent of a known terrorist organization. Equipment stored in warehouse at grid WJ801165.
- Mission: Squad will secure and identify weapons caches (1st and 3rd floor) at grid WJ801165 NLT 230430LJUN03 in order to disrupt future terrorist action.
- Terrain: Warehouses with multiple entry points and offices. Buildings are unoccupied due to local holiday.

Weapons Cache SE

- This is the SE version of Weapons Cache, here there is a third location where the MANPADS are stored. Additionally the map is much larger, allowing more access to different areas of the storage facility.
- Situation: Intelligence reports an illegal arms sale of anti-aircraft weapons to a known terrorist organization. Equipment stored in warehouses vicinity at grid WJ801165.
- Mission: Squad will secure and identify weapons caches vicinity at grid WJ801165 NLT 230430LJUL03 in order to disrupt future terrorist action. Weapons suspected in main and southwest warehouses.
- Terrain: Warehouses are reachable by crossing an open courtyard, which is vulnerable to enemy fire. Most buildings are either no longer in use or unoccupied due to celebration of local holiday.

Radio Tower

- "Rangers Lead the Way", is their motto. Radio Tower is set in the mountains during the day time. There are tunnel networks, as well as buildings, ruins, and mountains. Visibility is better compared to other maps, therefore care must be taken when moving around on the surface, since advanced marksmen are available to both sides.
- Situation: Intelligence reports that a terrorist cell is broadcasting via radio tower at grid WQ038333 and holding two teams of international aid workers as hostage.
- Mission: First squad, rescue the international aid workers in the buildings to the west (WQ018353) and southwest (WQ038333) and disable the antenna on the roof of the southwest building preventing its further use.
- Terrain: Multi-level buildings with basements located in high desert. Rough terrain affords cover and concealment with multiple avenues of approach to objectives.

Woodland Outpost

- This is mission takes place during the evening and in a woodland environment. Rocky hills are dispersed around the woodland outpost which provides cover for both friendly and enemy forces.
- Situation: Insurgent forces have established a command post at grid WD192645.
- Mission: First squad move to command post at grid WD192645. Raid the command post and prep and destroy the weapons depot.
- Terrain: Rocky woodland terrain. Post rests in a valley. Perimeter interior holds numerous tents. The command tent is centrally located within the camp.

U.S. Army Special Forces (Airborne)

Pipeline SF

- This map is a remake of the original Pipeline. The map is now set to night and makes use of Special Forces. The objectives remain the same, where assault must either access the computer, or turn off all the valves.
- Situation: Terrorist forces have captured Alaskan Pipeline pump station at grid WA542679, with the intent of creating an environmental disaster.
- Mission: Squad will seize Alaskan Pipeline station at grid WA542679 and accomplish one of the following: secure the main control panel; stop the flow of oil into the pumps at the three valve controls.
- Terrain: Alaskan Pipeline Pump Station consisting of three structures; the pump station, the exterior oil tanks and a one story out-building housing the emergency shut off valve.

SF Recon

- Here is the SF Reconnaissance map. It is located in a desert environment. This map is primarily long range battle, and is live fire. The Counter-recon team must practice

good communication skills. For the Special recon team stealth can be the key to winning this battle. Properly identifying friend or foe is vital on this map because your team is mixed with U.S. and Indigenous Forces. Special Forces will be equipped with SOP mod M4's, SPR's, frag grenades, stun grenades, incendiary grenades and smoke grenades. Indigenous Forces will be equipped with RPK's, AK74su's and RPG's SF will also have access to night vision goggles, Indigenous Forces will not.

- *Special Reconnaissance*
    - o <u>Situation:</u> Resistance forces in Unconventional Warfare Area of Operations (UWAO) TURTLE report that enemy forces have stationed rotary aviation assets at an airstrip, vicinity grid ZY073180. Repeated attempts by Resistance fighters to assess enemy forces at this location have failed.
    - o <u>Mission:</u> ODA 211 and Resistance forces recon Objective FORBES at grid ZY 073180 NLT 31 0300 JUL 04 to identify enemy aviation assets in order to assess Resistance air defense requirements in UWAO TURTLE.
    - o <u>Terrain:</u> The airstrip is located in a valley, surrounded by an extensive minefield and barbed wire.
- *Counter Reconnaissance*
    - o <u>Situation:</u> Resistance forces in Unconventional Warfare Area of Operations (UWAO) TURTLE have established a HIND-D aviation detachment at a clandestine airfield, vicinity ZY073180. Enemy forces have dispatched reconnaissance teams to gather intelligence at this location.
    - o <u>Mission:</u> ODA 212 and Resistance forces secure Objective FORBES commencing 31 0100 JUL 04 to protect Resistance aviation assets in order to prevent enemy intelligence collection.
    - o <u>Terrain:</u> The airstrip is located in a valley, surrounded by an extensive minefield and barbed wire.

SF Hospital

- This Special Forces map provides a MOUT environment where civilians are around, therefore fire discipline must be exercised. The area consists of a two story hospital, and several surrounding buildings and complexes. There are three entrance points into the hospital, and three entrance points for the escort team to escort the VIP to the extraction point. This mission places a Special Forces A-Team combined with Indigenous Forces to conduct MOUT and CQB operations. It must be emphasized that civilians are in the area, and rules of engagement strictly prohibits any civilian casualties. Last but not least, access points in the game such as doorways may not be accessible. These will depend on how many people are on the server. The more people the more access.
- <u>Situation:</u> Following an ambush by enemy forces, a wounded Resistance leader escaped to a neutral hospital for treatment of his wounds. The leader is a critical member of the Resistance government within Unconventional Warfare Area of Operations (UWAO) JAZZ.
- <u>Mission:</u> ODA 212 assaults Objective KUHIO, vicinity ZZ 031441, commencing 14 0700 MAR 04, to exfiltrate the friendly Resistance leader in order to maintain continuity of Resistance leadership in UWAO JAZZ.

- <u>Terrain:</u> The hospital is located in a no-man's land between friendly and enemy forces operating within the city. Many civilians are operating in the hospital and scattered throughout the area.

SF Combat Search and Rescue (CSAR)

- As a Special Forces Soldier, you are tasked to do many types of operations. One such mission is combat search and rescue, or CSAR. An American UH-60 Blackhawk helicopter has crashed, therefore friendly forces must conduct a combat search and rescue mission. This is another MOUT/CQB style map, but without any civilians in the area. Special Forces will be reinforced by Indigenous Soldiers. It must be noted that both OPFOR and IF are armed with the RPG-7, therefore appropriate precautions must be taken. Additionally, as with all maps with IF, proper target identification is important.
- <u>Situation:</u> U.S. Blackhawk helicopter shot down vic WR 987777. UAV confirms one crewman alive.
- <u>Mission:</u> ODA 20-2, conduct Combat Search And Rescue (CSAR), secure crash site point Alpha (vic WR990780) and wait for arrival of friendly reinforcements.
- <u>Terrain:</u> Partially destroyed mudbrick compound in high desert offering numerous covered and concealed positions.

- Pipeline
- Bridge Crossing
- Bridge Crossing SE
- Mountain Pass
- Urban Assault
- Mountain Pass SE
- HQ Raid
- Collapsed Tunnel
- Insurgent Camp
- River Basin
- FLS
- FARP Raid
- Mountain Ambush
- Swamp Raid
- Weapons Cache
- Weapons Cache SE
- Radio Tower
- Woodland Outpost
- Pipeline SF
- SF Recon
- SF Hospital
- SF CSAR

MOSC 11B10

1. **Assists** in the **performance** of reconnaissance operations.	• Mountain Ambush • SF Recon
2. **Employs, fires,** and **recovers** anti-personnel and anti-tank mines**.**	• SF Recon
3. **Locates** and **neutralizes** mines.	• SF Recon
4. **Operates,** mounts/dismounts, zeros, and **engages** targets using night vision sight.	• Pipeline • HQ Raid • Collapsed Tunnel • SF Recon
5. **Operates** and **maintains** communications equipment and **operates** in a radio net.	• SF Recon
6. **Operates** in a NBC contaminated area**.**	🔴
7. **Constructs** field expedient firing aids for infantry weapons.	• All
8. **Performs** as a member of a fire team during a **movement** to contact, reconnaissance, and security, an **attack, defense,** situational training exercises and all infantry dismounted battle drills.	• Mountain Ambush • SF Recon
9. **Processes** prisoners of war and captured documents.	• HQ Raid

MOSC 11B20

1. **Performs** duties shown in preceding level of skill.	
2. **Leads** an infantry team in combat operations, **providing** tactical and technical **guidance** to subordinates and professional **support** to both superiors and subordinates in the **accomplishment** of their duties.	• All
3. **Leads, supervises,** and **trains** subordinate personnel.	• All
4. **Calls** for and **adjusts** indirect fire.	• All
5. **Evaluates** terrain and **selects** weapon emplacement.	• All
6. **Controls** organic fires.	• All
7. **Installs** and **recovers** anti-handling devices on anti-tank mines and electrical and non-electrical demolition charges.	🔴
8. **Supervises** construction of hasty fortifications and receipt, storage, and issue of ammunition.	🔴
9. **Records** operational information on maps.	🔴

10. **Receives** and **implements** combat orders, **directs** deployment of personnel in offensive, defensive, and retrograde operations.	• All
11. **Requests, observes,** and **adjusts** direct supporting fire.	• All
12. **Evaluates** terrain and **supervises** the emplacement of sighting and firing all assigned weapons.	• All
13. **Uses** maps and map overlays, **performs** intersection and resection, and **determines** elevation and grid azimuths.	• All
14. **Leads** a fire team during a **movement** to contact, reconnaissance and security, an **attack, defense,** situational training exercises, and all infantry dismounted battle drills.	• Mountain Ambush • SF Recon

MOSC 11B30

1. **Performs** duties shown in preceding level of skill.	
2. **Leads** an infantry squad and/or a reconnaissance (scout) team during combat operations.	• Mountain Ambush • SF Recon
3. **Supervises** tactical deployment of assigned element in offensive, defensive, and retrograde operations.	• All
4. **Provides** tactical and technical **guidance** to subordinates and professional support to both subordinates and superiors in the accomplishment of their duties.	• All
5. **Receives** and **issues** orders.	• All
6. **Coordinates** action of the element with adjacent and support elements and organic and supporting fire power.	• SF Recon
7. **Ensures** collection and proper **reporting** of intelligence data to unit.	• Bridge Crossing • Bridge Crossing SE • Insurgent Camp • SF Recon
8. **Adjusts** aerial fire support.	🔴
9. **Analyzes** terrain.	• All
10. **Conducts** tactical operations for a squad, operations of a patrol base, and NBC operations.	🔴

11. **Maintains** operational security.	• All
12. **Prepares, operates,** and **maintains** secure communications equipment.	🔴
13. **Leads** a squad during **movement** to contact, reconnaissance and security, an attack, defense situational training exercises, and all infantry dismounted battle drills.	• Mountain Ambush • SF Recon

MOSC 11B40

1. **Performs** duties shown in preceding level of skill.	
2. **Supervises** an infantry or reconnaissance (scout) platoon in combat operations and intelligence **information gathering.**	🔴 • Mountain Ambush • SF Recon
3. **Leads** a **platoon** during a **movement** to contact, reconnaissance and security, an attack defense, situational training exercises, and all infantry dismounted battle drills**.**	🔴 • Mountain Ambush • SF Recon
4. **Provides** tactical and technical guidance to subordinates and professional **support** to both subordinates and superiors in the accomplishment of their duties.	🔴 • All
5. **Supervises** the occupation of an assembly area.	🔴
6. **Employs** NBC defensive teams.	🔴
7. **Plans** for, **supervises** preparation of, and **conducts** NBC operations.	🔴
8. **Performs** battle damage assessment.	🔴
9. **Develops** a platoon training plan.	🔴

MOSC 11B50

1. **Performs** duties shown in preceding level of skill.	🔴
2. **Supervises** an infantry company in combat.	🔴

3. **Plans, coordinates, supervises**, and **participates** in activities pertaining to organization, training, combat operations, and intelligence of units at battalion or higher.	🔴
4. **Provides** tactical and technical guidance to subordinates and professional **support** to both subordinates and superiors in the accomplishment of their duties.	🔴
5. **Serves** as the principal noncommissioned officer in an infantry company; **supervising** the **processing** of operations and intelligence information in an infantry battalion or higher level unit.	🔴