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## The Hammer or the Anvil: Developing Operational Adaptability through Simulations at the Tactical Level

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THE HAMMER OR THE ANVIL: DEVELOPING OPERATIONAL ADAPTABILITY  
THROUGH SIMULATIONS AT THE TACTICAL LEVEL

by

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A thesis submitted in partial fulfillment of the requirements for  
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## **ABSTRACT**

Operational Adaptability is a vital characteristic identified by senior Army leaders in today's military force. The U.S. Army is struggling with the definition and training of operational adaptability at the tactical level. In order to be a critical enhancement to the operational mission, operational adaptability needs to be trained through a training model that supports current U.S. Army doctrine. To develop a base foundation of operational adaptability, Soldiers must train as a collective unit in a simulated operational environment in order to apply characteristics of operational adaptability.

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This research project does not necessarily reflect the perspective(s) of the Department of Defense and the U.S. Army.

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## LIST OF ACRONYMS/ABBREVIATIONS

AAR	After Action Review
ACC	Army Capstone Concept
ADP	Army Doctrine Publication
AOC	Army Operational Concept
ARFORGEN	Army Forces Generation
ATC	Army Training Concept
BCT	Brigade Combat Team
Bde	Brigade
Bn	Battalion
CAP	Close Air Patrol
CAS	Close Air Support
FM	Field Manual
OE	Operational environment
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
LT	Lieutenant
LTC	Lieutenant Colonel
MAJ	Major
MOS	Military Occupational Specialty
PEO	Program Executive Officer
PM	Program Manager
TTP	Techniques, Tactics, and Procedures
TRADOC	US Army Training and Doctrine Command

## CHAPTER 1: INTRODUCTION

Per TRADOC PAM 525-3-0, The Army Capstone Concept (ACC), “operational adaptability requires a *mindset* based on flexibility of thought calling for leaders at all levels who are comfortable with collaborative planning and decentralized execution, have a tolerance for ambiguity, and possess the ability and willingness to make rapid adjustments according to the situation.” The purpose of the ACC is to describe the broad capabilities the Army will require in 2016-2028. Operational adaptability is a central idea within the ACC for training units and leaders both now and in the future (Training and Doctrine Command, 2012).

As early as 2006, the U.S. Army defined adaptability as “an individual’s ability to recognize changes in the environment, identify the critical elements of the new situation, and trigger changes accordingly to meet new requirements” (Department of the Army, 2006). Other definitions have evolved from an individual component to a collective trait. TRADOC PAM 525-3-0, The Army Training Concept, discusses adaptability in the as a component of the individual, unit, as well as, the entire Army (Training and Doctrine Command, (2011). Further complicating the concept of adaptability is the findings from COL Mulbury’s U.S. Army War College strategy research project on developing adaptive leaders. In his findings, COL Mulbury states “is left to individual units and schools to define adaptability” and “there is no directive roadmap that states what an adaptive Leader, Soldier or unit should look like” (Mulbury, 2007).

Even though operational adaptability is a key concept in the ACC, questions remain on how the U.S. Army will apply operational adaptability in training. This research paper seeks to explore the concept of operational adaptability for training through simulations at the tactical level to provide a framework to incorporate operational adaptability into home station training.

The purpose of chapter one is to provide background and frame the problem of operational adaptability. With that purpose in mind, this chapter seeks to answer the following research question; in what context would soldiers apply operational adaptability at the tactical level?

### Historical Examples of Operational Adaptability

A look into military history reveals that operational adaptability has been prevalent throughout military incursions. The American Revolution is a prime example. During the “shot heard around the world” at the battle of Lexington and Concorde, British soldiers marched openly in the Massachusetts countryside. The American forces hid behind cover (rock, trees) and used camouflage (tall grass and foliage) to engage British soldiers (Boot, 2013). The American forces adapted guerilla tactics from the American Indians who refined the techniques during the French and Indian wars (Chambers, 1999). While the American Revolution is an example of American operational adaptability, there are other instances where the enemy utilized this characteristic as well, such as the Japanese forces during World War II and the concept of the kamikaze.

The term kamikaze is translated as “divine wind” and named after the legendary tale of the Japanese emperor who summoned two typhoons to defend Japan against the naval armada of Genghis Kahn’s grandson, Kublai Kahn (Powell, 2014).

Kublai Khan had conquered much of China and was trying to expand the Empire of Mongolia during the 13<sup>th</sup> century (Powell, 2014). Khan planned to attack Kyushu, the southernmost of the main islands of Japan, with over 140,000 sailors and a mammoth fleet of Chinese and Korean ships (Powell, 2014). Khan sent this enormous armada across the Korea

Strait in 1274 and 1281 (Powell, 2014). Both times, Khan's navy was destroyed by devastating typhoons, dubbed the kamikazes (Powell, 2014).

This concept emerged again in the latter stages of World War II as Japanese special attack squadrons. During the Battle of Leyte Gulf on 23-26 October, 1944, the first kamikaze pilots attacked Allied ships (Orbell & Morikawa, 2011). During this time, the Japanese empire had no aircraft carriers in their fleet while Allied forces had approximately thirty four (Orbell & Morikawa, 2011). The Japanese fuel supply was disrupted from Indonesia as a result of Allied air and submarine attacks. The main island of Japan was subject to constant aerial attacks (Orbell & Morikawa, 2011).

It was during this dire time that the Japanese adapted operations to suicide attacks via the "divine wind". Vice Admiral Ohnishi, the architect of the Kamikaze force quoted the below statement to Japanese pilots in central Luzon on 20 October 1944:

Japan is in grave danger. The salvation of our country is now beyond the power of the ministers of state, the General Staff, and lowly commanders like myself. It can only come from spirited young men such as you. Thus, on behalf of your hundred million countrymen, I ask of you this sacrifice, and pray for your success. (Inoguchi et al, 1958)

The kamikaze campaign did not have the success the Japanese military had envisioned (see figure 2) due to the operational adaptability of the Allied forces in reaction to the "divine wind".

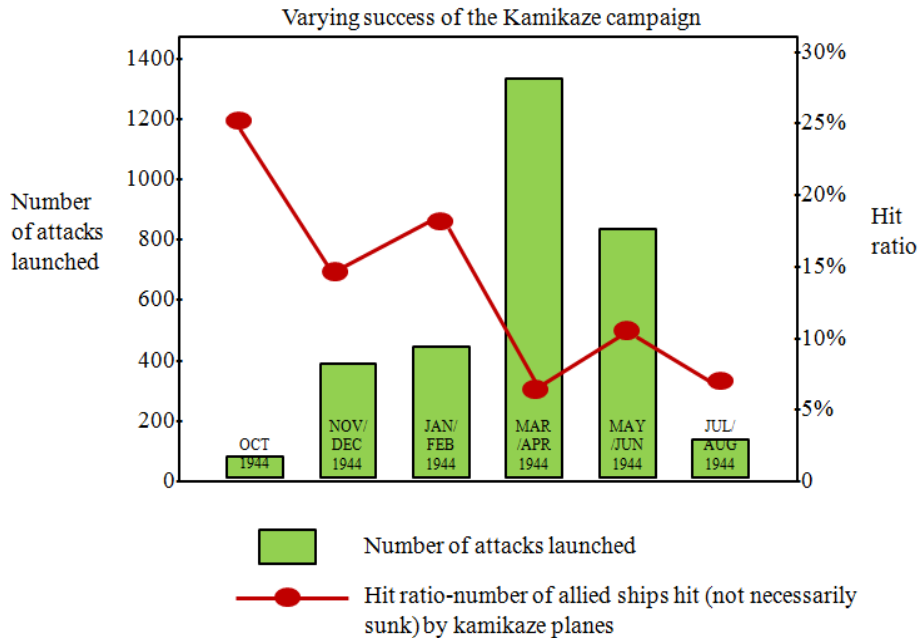


Figure 1: Varying success of the Kamikaze campaign

Note. Adapted from Orbell, J., & Morikawa, T. (2011). An evolutionary account of suicide attacks: the Kamikaze case. *Political Psychology*, 32(2), 297-322.

Allied forces adapted a number of countermeasures to defeat Kamikaze attacks. Early detection through forward positioned Navy destroyers combined with two interceptor aircraft became an effective engagement team and stopping Kamikaze pilots to reach their intended targets (Timenes, 1970). Increased combat air patrols were successful since the kamikaze pilots were less experienced. In addition, the Kamikaze planes, such as the Ohka (a rocket powered glider), were built to crash into allied ships and not to engage in aerial dog fighting (Zaloga, 2011).

For Kamikaze planes that reach the main fleet, massing of firepower was a key defense. Large anti-aircraft guns had the firepower to completely destroy the kamikaze planes, which was the preferred technique since a heavily damaged kamikaze could complete its mission (Gordon, 2008). The Japanese adapted their attack techniques and the Navy responded with their own

strategy for adapted defenses. American ultimately prevailed in this battle of wills by setting conditions for success.

In modern times, the Army is also adapting its strategy to set conditions for success with the concept of prevent, shape, and win.

### Prevent, Shape, and Win

The Chief of Staff of the Army, General Ray Odierno, introduced a new strategy in 2011 called “prevent, shape, and win” that is centered on operational adaptability (Odierno & McHugh, 2013).

### Prevent

Prevention is defined with two parts. First, realistic training to ensure combat readiness. Second, promoting the concept that armed conflict with the US Army is extremely unwise to potential adversaries (Odierno, 2011). Key aspects in the prevent phase show the capabilities of the U.S. Army across a spectrum of missions. The image of strength portrayed by the U.S. Army as the most dominate land force on the planet must never be up for debate. Execution of these missions, ranging from assisting in civil administrations with humanitarian assistance and disaster relief ot full combat operations, is critical to the next phase of operations, shape

### Shape

According to Joint publication 3-0, Joint Operations, shaping operations take place throughout the phases of an operational plan (OPLAN).

Additional information within JP 3-0 describes shaping operations below:

Shape activities are executed continuously with the intent to enhance international legitimacy and gain multinational cooperation by shaping perceptions and influencing adversaries' and allies' behavior; developing allied and friendly military capabilities for self-defense and multinational operations; improving information exchange and intelligence sharing; providing US forces with peacetime and contingency access; and mitigating conditions that could lead to a crisis. (Joint Staff, 2011).

Shaping operations are executed throughout the international environment with the two objectives of building partner capacity and strong military relationships with allies. A key aspect of building partner capacity is providing assistance to civil administrations. The military has a long history of assisting civil administrations. In the aftermath of World War II, the continent of Europe was decimated. The military made extensive efforts to resettle populations, support rejuvenation of the economy, and establish civil law (Cuny, 1989). During this era, it was realized that the military engaged in unique skills to support people due to their war fighting capabilities and started to incorporate these concepts into doctrine. Building refugee camps, food distribution, temporary sleeping cots with blankets, were all approaches a military force will take in the aftermath of a city devastated by battle (Cuny, 1989). General Lucien Clay, an American Officer and military Governor appointed in Germany, remarked that the same set of skills for civil relief were also need by occupying forces (Cuny, 1989).

A more recent example is the massive earthquake suffered by Haiti in January of 2010. As a result of this natural disaster, deaths were estimated to be over two hundred thousand with millions more affected (Webster, 2010). A brigade from the 82<sup>nd</sup> Airborne Division was mobilized to support OPERATION UNIFIED RESPONSE as the initial response force. In the next few days, elements of the Army, Navy, and Air Force assembled under the command of SOUTHCOM to form Joint Task Force-Haiti (Keen et al, 2010). During this time, the BCT mission focused on three initial tasks: provide medical aid, distribute food and water, support any



search and rescue efforts (Keen et al, 2010). The U.S. Army focused solely on humanitarian efforts and left policing of the Haitian criminal element to the local police and the United Nations Task Force. As a result the U.S. Army built strong relationships with the local government (Webster, 2010).

In 2012, ten thousand Soldiers from the National Guard deployed to support the recovery of New York after Hurricane Sandy (Odierno, 2012). This operation was a massive effort to support disaster relief and humanitarian assistance. One of the most impressive efforts was the Army Corps of Engineers pumping approximately six hundred thousand gallons of water out of the tunnel systems in New York City per minute (Siegel, 2012). The U.S. Army direct efforts to support humanitarian assistance involved provide meals to displaced residents, medical care, helicopter air support, transport of cots for shelters, safety checks of apartment building, and fueling local and emergency vehicles (Odierno, 2012).

These types of missions promote an image of strength, establish the military's credibility, and support greater stability by allowing people to experience the vast capabilities of the U.S Army to handle any mission. The war fighting capabilities of the military are well documented with the global war on terrorism but humanitarian assistance missions rarely get the same media coverage.

The second aspect of the shaping phase is strong military relationships. This involves peer-to-peer military training with host nation forces worldwide. These exercises allow the military to engage and foster a mutual understanding of military support. In addition, these exercises allow the host nation to build capacity for security.

Within the shape phase, a concept call the Regionally Aligned Forces (RAF) has been initiated. This concept aligns units to the six Combatant Commands around the world. Each

Combatant Command has a four star leadership position with responsibility for a vast geographical region. From an engagement perspective, this better strengthens the partnership between the Combatant Commander and his regional partners. This involves peer-to-peer military training and sharing intelligence (Vergun, 2014).

With U.S. bases overseas closing down as part of shrinking budgets, the RAF concept allows for a forward presence of U.S. Forces to maintain alliances. The benefit beyond strengthening relationships is the exposure to the regional culture and language. General Odierno stated that one of the key lessons from the past ten years at war is that nothing is as important as long term success as understanding the prevailing culture and values (Ellena & Lorentz, 2013).

All aspects of prevent and shape set the conditions for the military to achieve victory against the enemy.

### Win

During the last phase operations, the U.S. Army must win decisively and dominantly in battle. General Odierno describes win as “no substitute for victory and anything less than that will pay the price in American lives” (Odierno, 2011). To achieve this end state in today’s operational environment, the U.S. Army must reevaluate its training and education with its most important resource, Soldiers (Center, 2014). To that end, the U.S. Army is defining the Human Dimension Concept. The Human Dimension Concept is a roadmap for how the future Army must select, develop, sustain, and transition Soldiers and Army Civilians to prevent, shape, and win in the 21st century (Training and Doctrine Command, 2014). This concept supports the U.S. Army Capstone Concept’s central idea of operational adaptability by providing a framework to

maximize individual and team performance through the identification, development, and optimal integration of human capabilities (Training and Doctrine Command, 2014).

### The Human Dimension Concept

The strategic landscape and emerging threats facing the United States of America are vast and complex (Center, 2014). The threats range from traditional large scale armies with conventional tactics to non-state actors who utilize guerilla means. Social political factors, ambiguity, and regional instability are a few of multi-faceted factors that compound today's war zones. Soldiers must understand the complexity of the environment while maintaining security and promoting governance. Leaders in the U.S. Army must be to understand and adapt to whatever complex environment they find themselves deployed to.

The Human Dimension Concept key tenets are physical supremacy, decisive cognitive edge, and cultural understanding over potential adversaries (Center, 2014). The recent white paper published by the United States Army Combined Arms Center does a fine job of describing the principals of the Human Dimension but lacks examples for clarity.

### Framing the Problem

The identity of the U.S. Army is changing through the strategy of prevent, shape, and win. The role of the military is becoming complex by increasing responsibility across the spectrum of conflict from humanitarian relief to combat through the human dimension concept. Within these changes, the central concept of the ACC, operational adaptability, does not have a commonly accepted definition but the environments and threats are noticeably identified (Mulbury, 2007). In essence, a soldier may know where and when his next deployment will occur, but not how to apply operational adaptability at the tactical level.

The next chapter seeks to review the military, business, and healthcare as three professional fields that utilize adaptability for definitions, themes, and attributes.

## CHAPTER 2: LITERATURE REVIEW

### Overview

“If our forces are to be responsive to theater security cooperation and contingency response requirements, we must have agile and adaptable leaders.”

Major General Robert Brown

The body of work for adaptability literature is vast and continually growing. During this literature review, many definitions of adaptability have been brought to light.

Joseph W. Pfeifer, Chief of Counterterrorism and Emergency Preparedness for the New York Fire Department, defines operational adaptability with four components in his Naval Postgraduate School Thesis:

- Dynamic Planning – using multi-dimensional threat scenarios for preparedness
- The Power of Situational awareness – seeking, exchanging and sense-making of information to maintain a common operational picture
- Flexible Decision-Making – making decisions under stress and uncertainty
- Adaptive Innovation – developing organizational, operational and technological solutions (Pfeifer, 2005).

On the leader skill of adaptability, U.S. Army Special Forces defines adaptability as competencies such as negotiation and consensus building skills, the ability to communicate effectively, analyze ambiguous situations, be self-aware, think innovatively, and critically use effective problem solving skills. Each of these competencies is an essential element of leader development training for the U.S. Army Special Forces (Bandy et al, 2010).

COL Mulberry, in his strategic research paper for the Army War College titled , *Developing Adaptive Leaders, A Cultural Imperative* contends that adaptive performance

requires an ability to scan the environment, recognize important items in the environment that have changed, evaluate alternatives or options available to contend with changes in the environment, change behavior, and finally evaluate outcomes (Mulbury, 2007).

In this document, Operational Adaptabilities is to be treated or referred in the context of Chief Pfeifer four components: dynamic planning, situational awareness, flexible decision making, and adaptive innovation (Pfeifer, 2005)

Three professional fields which advocate adaptability are the military, business, and healthcare. All three fields utilize adaptability in various ways to support their missions.

The purpose of this review is to analyze and synthesize the literature works for common core elements and themes. To that end, the criterion for this review is the application of adaptability that impacts the respective professional fields to achieve the mission end state. Two secondary research questions will be used to guide the analysis.

- What is the definition of operational adaptability in the military, business, and healthcare?
- What are the themes for operational adaptability in each field?

This literature review will consist of three parts. First, a review of current doctrine for definitions of operational adaptability. Second, a review of adaptability in the workplace (business and medical). Finally, an analysis of all three fields for applicability to the military.

### Adaptability in Military Doctrine

The Army Capstone Concept, TRADOC PAM 525-3-0, articulates ideas about future conflict within a complex environment (Army.mil, 2015). The Army Capstone Concept describes operational adaptability in terms of mental and physical domination. It also describes

adaptability as a leader characteristic to shape regional conditions. In a training context, the ACC describes adaptability as a characteristic to replicate realistic environments and the associated threats.

The Army Operating Concept, TRADOC PAM 525-3-1, provides a vision of future armed conflict, based on grounded projections of the future operational environment, advances in technology, directed missions, emerging threats and adversary capabilities (Perkins, 2014). This concept describes operational adaptability as synonymous with situational understanding without a loss of functionality (Perkins, 2014). Operational adaptability is described as a way to retain the initiative and capitalize on opportunities in innovative ways (Perkins, 2014).

Unified Land Operations: ADP 3-0 provides a common operational concept for a future in which Army forces must be prepared to operate across the range of military operations, while integrating their actions with joint, interagency, and multinational partners as part of a larger effort. (Department of the Army, 2011). The document discusses operational adaptability as a balance of power between the U.S. Army Leader and the enemy. The leader should understand the situation first, and then act second (Department of the Army, 2011). Operational adaptability can be enhanced through experiential learning with training prior to combat (Department of the Army, 2011). Lastly, operational adaptability is recognized as an enemy trait (Department of the Army, 2011).

Operations: FM 3-0 provides overarching doctrinal guidance and direction for conducting operations (Department of the Army, 2008). This field manual discusses operational adaptability being enabled by mission command. Just like ADP 3-0, FM 3-0 also dictates that leaders should understand the situation first, and then act while considering operational adaptability is an enemy trait (Department of the Army, 2008).

The scope of the document, The Army Training Concept: TRADOC PAM 525-8-3, is to provide guidance for Army training in an era of persistent conflict. To do this, Army training must prepare soldiers, leaders, and units to operate and succeed in an uncertain operational environment (OE). Where the Nation's enemies adapt quickly using the full range of threats (Training and Doctrine Command, 2011). This document also discusses that the U.S. Army should change the way soldiers train to include operational adaptability with realistic training to enhance experiential learning (Training and Doctrine Command, 2011), and that training environments should be comprehensive to replicated difficulties and complications to foster operational adaptability (Training and Doctrine Command, 2011), while also identifying operational adaptability as an enemy trait and a key function in decentralized operations (Training and Doctrine Command, 2011).

The Army Functional Concept for Movement and Maneuver: TRADOC PAM 525-3-6 identifies the capabilities required to enable units to conduct maneuver through adaptive and agile leaders imbued with the Warrior Ethos in order to lead combined arms formations in the complex environment (Training and Doctrine Command, 2010). This document discusses how the institutional Army should change to be more adaptable; specifically that the concept of operational adaptability is leader characteristic in order to prevail in uncertainty and complexity (Training and Doctrine Command, 2010). Lastly, the functional concept discusses how operational adaptability is linked to the Human Dimension Concept (Training and Doctrine Command, 2010).

The Human Dimension Concept: TRADOC PAM 525-3-7 provides a framework for how the future Army must select, develop, sustain, and transition Soldiers and Army Civilians to prevent, shape, and win in the 21st century (Training and Doctrine Command, 2014). This



literature discusses how the human dimension is linked to adaptability and organizational adaptability to foster future learning (Training and Doctrine Command, 2014). The concept also redefines the parameters of the human dimension as encompassing the cognitive, physical, and social components (Training and Doctrine Command, 2014).

### Review of Doctrine

A review of doctrines defines operational adaptability in a broad manner of definitions, from a leader attribute to organizational characteristics. With the variety of definitions, certain themes did rise within the doctrine (see Table 1 below).

Table 1: Operational Adaptability Themes in Doctrine

#	Operational Adaptability Themes
1	Mission Rehearsals in the replicated operational environment
2	Mission Command to include Mission Command on the move
3	Prepare, not just train leaders in Home station and deployed
4	Situational awareness versus situational understanding
5	Individual, Collective, and multiechelon training
6	Create critical problems for critical thinking
7	Cultural Training on Area of Ops region (Regionally aligned forces)
8	Replication of Operational Environment (Terrain/equipment/culture)
9	Whole Army initiative (Operational, institutional, and support structure)
10	Experiential Learning prior to the regional environment
11	Take advantage of technology, break through bureaucracy
12	Linked with the Human Dimension Concept
13	Struggle of power with the Enemy
14	Expected Enemy Trait
15	Decentralized execution under mission command

Source: Author

The operational adaptability themes in doctrine can be divided into the strategic operational and tactical application. The strategic purpose centers on “building the foundation” for the operational U.S. Army (see Table 2).

Table 2: Operational Adaptability Themes in Doctrine- Strategic

#	Operational Adaptability Themes: Strategic-“building the foundation”
1	Prepare, not just train leaders in Home station and deployed
2	Whole Army initiative (Operational, institutional, and support structure)
3	Create critical problems for critical thinking
4	Experiential Learning prior to the regional environment
5	Take advantage of technology, break through bureaucracy
6	Linked with the Human Dimension Concept

Source: Author

The operational purpose centers on “setting successful conditions” for developing operational adaptability at the tactical level (see Table 3).

Table 3: Operational Adaptability Themes in Doctrine- Operational

#	Operational Adaptability Themes: Operational-“setting successful conditions”
7	Mission Rehearsals in the replicated operational environment
8	Situational awareness versus situational understanding
9	Individual, Collective, and multiechelon training
10	Cultural Training on Area of Ops region (Regionally aligned forces)
11	Replication of Operational Environment (Terrain/equipment/culture)

Source: Author

The tactical purpose centers on “execution” of operational adaptability at the (see Table 4).

Table 4: Operational Adaptability Themes in Doctrine-Tactical

#	Operational Adaptability Themes: Tactical-“execution”
12	Mission Command to include Mission Command on the move
13	Expected Enemy Trait
14	Decentralized execution under mission command
15	Struggle of power with the Enemy

Source: Author

### Adaptability in the Medical Field

The healthcare industry of today is growing and continuously changing. Three subjects of adaptability are noted by medical literature. First, adaptability at the medical education field. Second, adaptability in healthcare facilities. Finally, adaptability of health care workers to patient culture.

The purpose of medical schools is the production of physicians who can effectively perform their proper function in the communities (Adaptability in medical education, 1968). Adaptability in the medical education field applies to all components of education, including the students, teachers, and the curriculum. For prospective medical students, the Association of American Medical Colleges (AAMC) noted fifteen competencies of medical students in four categories; interpersonal, intrapersonal, thinking/reasoning, and science. In the intrapersonal category, adaptability is paired with resilience and defined as a tolerance of stressful situations or changing environments and adapts effectively to them (Aamc.org, 2015).

Dr. Ryan Gray, host and author of the Medical School Head Quarters Podcast also noted adaptability as a trait for students to be successful in medical school (Gray, 2015). One of Dr. Gray’s key points is that during the clinical years, a student will shift his or her area of responsibility in different fields of medicine very quickly (Gray, 2015). For example, a medical

student may finish a general surgery rotation on week one, but start his next rotation in pediatrics on the next week. The adjustment of the medical student to different regulations and subjects is very important and must happen quickly (Gray, 2015).

Adapting to different medical teams is also important to a medical student. Changing of team membership is a common practice in the medical field and referred to as membership fluidity (Bedwell et al, 2012). This process could be due of changes in shift regulations, personnel layoffs, or task priorities (Bedwell et al, 2012). For example, an emergency room has a set number of doctors and nurses on shift. If a patient comes into the emergency room, a team is assigned to provide medical care to the patient. If another patient enters the emergency room in a critical condition and needs the expertise of a specific doctor, teams must be adjust to compensate for consistent medical care and to ensure the right expertise in taking care of the right patients (Bedwell et al, 2012). If this scenario happens multiple times, the teams must adjust as the task/workloads changes to the numbers of patients who need care (see Figure 1).

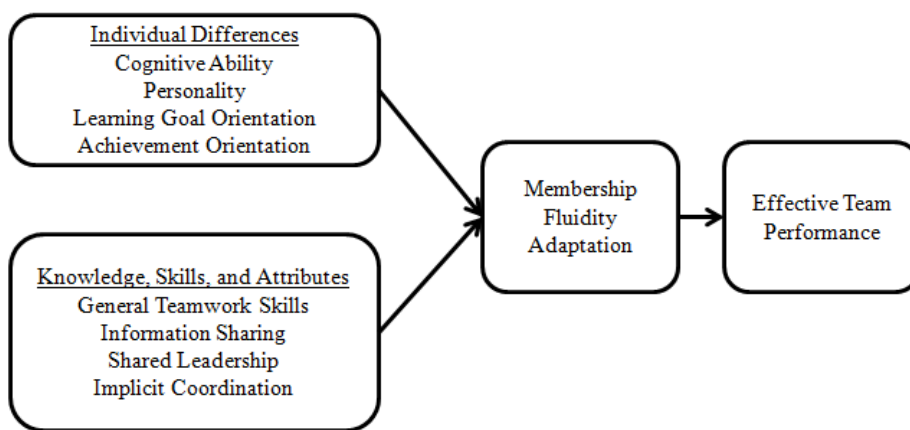


Figure 2: Medical Team Fluidity Framework

Note. Adapted from Bedwell, W. L., Ramsay, P. S., & Salas, E. (2012). Helping fluid teams work: A research agenda for effective team adaptation in healthcare. *Translational Behavioral Medicine*, 2(4), 504–509. doi:10.1007/s13142-012-0177-9

Adaptability in medical schools translates to changes in curriculum in order to keep pace with medical science, techniques, and the latest practices (Sheikh et al, 2014). Curriculums must reflect the current state of medicine and modify what would be considered traditional methods of practice (Adaptability in medical education, 1968). This becomes a global challenge for medical education requiring various schools to facilitate this challenge with global thinking (Cook, 2014).

One such school is the American University of Beirut (AUB). This prestigious school was founded in 1866 and has approximately seven hundred faculty teachers with eight thousand students (Sheikh et al, 2014). The AUB faculty of medicine adjusted its curriculum in the fall of 2013 to align with the global changes in medicine (Sheikh et al, 2014). The changes are centered around the below concepts (Sheikh et al, 2014):

- An integrated approach to instruction
- Early introduction of clinical experience and skills development
- Greater reliance on self-directed learning
- Extensive training in interdisciplinary and group learning
- Expanded course material stressing the humanitarian development and maturity of young physicians
- A keener appreciation for the social and ethical contexts of disease management

Deemed the impact curriculum, AUB faculty of medicine is already taking steps to provide the next generation of doctors tools to succeed with the physicians, patients, and society course. The course emphasizes the human and social aspects of medicine to translate into a holistic approach that focuses on the whole patient (Cook, 2014). The course has four learning modules consisting of art, history, literature, and patient shadowing (Cook, 2014). Patient shadowing is following the patient through the healthcare appointment to experience the process

through the patient's point of view (DiGioia III et al, 2011). This allows the doctors to experience the entire process, both good and bad, to receive medical care. The introduction of science and social aspects of medicine allows for doctors who can appreciate the feelings of the patients.

Another patient centered concept in medicine is cross cultural healthcare. This is where the patient values, beliefs, and cultural backgrounds are integrated in the delivery of healthcare (Conway et al, 2006). For example, a 20-month-old Mexican-American male infant with recurrent onset of fever, runny nose and noisy breathing was brought to the clinic by his mother. The mother noted that the child had been sleeping restlessly and making sighing noises while asleep. On physical examination, the infant was found to have symptoms of an upper respiratory infection. The mother stated that she was very concerned because two months earlier the child had had a major motor seizure which she associated with a high fever and susto (fright disease) (Guillemin et al, 1993). The doctor suggested a decongestant for relief of symptoms. He also reiterated the relationship of fever to seizures and advised continued use of antipyretics. The doctor demonstrated the use of sponge baths to reduce fever and emphasized the importance of fever control in preventing seizures. In addition, he suggested that the mother consult a curandera (folk healer) concerning her questions about susto (Guillemin et al, 1993).

In the cultural context, susto is a Latin-American folk illness that is caused by fright. The source or cause of fright might be anything from a simple startle response to an encounter with spirits (Guillemin et al, 1993). By explaining the logical physical response to the illness and not dismissing the belief of susto, the doctor provided culturally consistent care to the mother and son.

### Review of Adaptability in the Medical Field

A review of literature in the medical field defines adaptability in three categories. The first theme is the doctor to patient relationship; the end state of this theme is to understand the culture and grievances of the patient and apply that knowledge to sustain well being. The second theme of adaptability is teamwork; the end state of this theme is efficiency of providing care in dynamic environments. The last theme is training medical students; the end state of this theme is to ensure the curriculum provides the best educational standards in line with today's changing state of medicine to prepare medical students to be doctors.

### Adaptability in the Business World

One of the more prominent models of adaptability in the business world is Pulakos, Arad, Donovan, & Plamondon study in 2000. This study produced a unique assemblance of eight different dimensions of adaptability. Each of these dimensions could be applied to a job to improve performance. The methodology of the model was an analysis of critical incidents describing effective and non-effective instances of adaptability (Pulakos et al, 2000).

Table 5: Eight Dimensions of Adaptability

Dimension	Description
Handling emergencies or crisis situations	Reacting with appropriate and proper urgency in life threatening, dangerous, or emergency situations; quickly analyzing options for dealing with danger or crises and their implications; making split-second decisions based on clear and focused thinking; maintaining emotional control and objectivity while keeping focused on the situation at hand; stepping up to take action and handle danger or emergencies as necessary and appropriate.
Handling work stress	Remaining composed and cool when faced with difficult circumstances or a highly demanding workload or schedule; not overreacting to unexpected news or situations; managing frustration well by directing effort to constructive solutions rather than blaming

Dimension	Description
	others; demonstrating resilience and the highest levels of professionalism in stressful circumstances; acting as a calming and settling influence to whom others look for guidance.
Solving problems creatively	Employing unique types of analyses and generating new, innovative ideas in complex areas; turning problems upside-down and inside-out to find fresh, new approaches; integrating seemingly unrelated information and developing creative solutions; entertaining wide-ranging possibilities others may miss, thinking outside the given parameters to see if there is a more effective approach; developing innovative methods of obtaining or using resources when insufficient resources are available to do the job.
Dealing with uncertain and unpredictable work situations	Taking effective action when necessary without having to know the total picture or have all the facts at hand; readily and easily changing gears in response to unpredictable or unexpected events and circumstances; effectively adjusting plans, goals, actions, or priorities to deal with changing situations; imposing structure for self and others that provide as much focus as possible in dynamic situations; not needing things to be black and white; refusing to be paralyzed by uncertainty or ambiguity.
Learning work tasks, technologies, and procedures	Demonstrating enthusiasm for learning new approaches and technologies for conducting work; doing what is necessary to keep knowledge and skills current; quickly and proficiently learning new methods or how to perform previously unlearned tasks; adjusting to new work processes and procedures; anticipating changes in the work demands and searching for and participating in assignments or training that will prepare self for these changes; taking action to improve work performance deficiencies.
Demonstrating interpersonal adaptability	Being flexible and open-minded when dealing with others; listening to and considering others' viewpoints and opinions and altering own opinion when it is appropriate to do so; being open and accepting of negative or developmental feedback regarding work; working well and developing effective relationships with highly diverse personalities; demonstrating keen insight of others' behavior and tailoring own behavior to persuade, influence, or work more effectively with them.
Demonstrating cultural adaptability	Taking action to learn about and understand the climate, orientation, needs, and values of other groups, organizations, or cultures; integrating well into and being comfortable with different values, customs, and cultures; willingly adjusting behavior or appearance as necessary to comply with or show respect for others' values and customs; understanding the implications of one's actions and adjusting approach to maintain positive relationships with other groups, organizations, or cultures.
Demonstrating physically	Adjusting to challenging environmental states such as extreme heat, humidity, cold, or dirtiness; frequently pushing self physically to



Dimension	Description
oriented adaptability	complete strenuous or demanding tasks; adjusting weight and muscular strength or becoming proficient in performing physical tasks as necessary for the job.

Source: Adapted from Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: development of a taxonomy of adaptive performance. *Journal of applied psychology*, 85(4), 612.

For ease of applicability during a military training and development research study, Mueller-Hanson et al grouped the original eight dimensions of adaptability into three overarching categories of adaptability (Mueller-Hanson et al, 2005):

Table 6: Mueller-Hanson et al's Three Categories of Adaptability

Categories	Description
Mental Adaptability	Adjusting one's thinking in new situations to overcome obstacles or improve effectiveness. It includes handling emergency or crisis situations; dealing effectively with unpredictable or changing work situations, handling work stress, learning new work tasks, technologies, and procedures; and solving problems creatively
Interpersonal Adaptability	Adjusting what one says and does to make interactions with other people run more smoothly and effectively. This includes demonstrating interpersonal adaptability, and displaying cultural adaptability
Physical Adaptability	Adjusting to tough environmental states such as heat, cold, etc, pushing oneself physically to complete strenuous or demanding tasks, and adjusting weight/muscular strength or becoming proficient in performing physical tasks as necessary for the job

Note: Adapted from Mueller-Hanson, R. A., White, S. S., Dorsey, D. W., & Pulakos, E. D. (2005). *Training adaptable leaders: Lessons from research and practice* (No. ARI-RR-1844). PERSONNEL DECISIONS RESEARCH INST INC ARLINGTON VA.

By grouping the eight dimensions into three overarching categories, this allowed the concept of adaptability to better apply to the role of a soldier.

## Leader Decision Models

The military has many leadership decision models but two are uniquely appropriate for operational adaptability, Klein's model of recognition-primed decision-making (RPDM) and Endsley's three levels of situational awareness.

Klein's model of RPDM is well known in military training (see Figure 3 below).

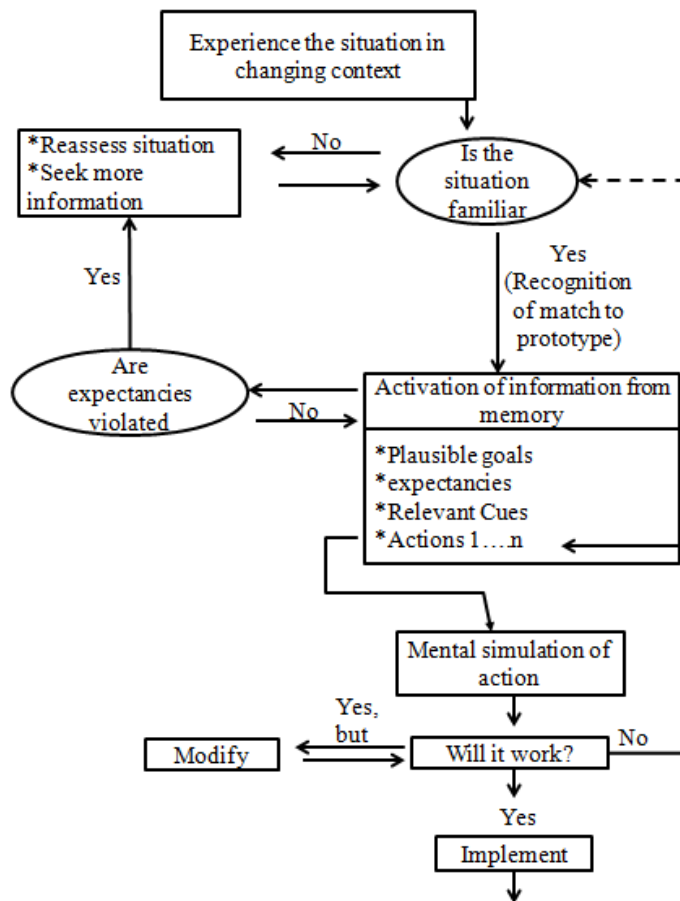


Figure 3: Klein's Complex Rapid Decisions Making Model

Note: Adapted from Klein, G. (1997). The recognition-primed decision (RPD) model: Looking back, looking forward. *Naturalistic decision making*, 285-292.

According to Klein, leaders use their experience of previous events to recognize a situation as an example or a prototype. Since prototypes are associated with a preferred course of

action, the leaders intuitively know what to do in the situation (Klein, 1997). The challenge with the military is that sometimes the least experienced person is in charge of the unit, such as a platoon leader. That leader does not have a vast database of experiences to rely on in making a split second decision. More often, the inexperienced leader must rely on his/her situational awareness to make an educated decision.

An established theoretical model for situational awareness was defined by Endsley in 1995 (Endsley, 1995). Endsley's theory established three levels of situational awareness: perception of the elements in the environment, comprehension of the current situation, and projection of the future status of the situation (Endsley, 1995). These levels are defined by Fricker with his study on situational awareness on biosurveillance (Fricker, 2013).

Table 7: Endsley's Three Levels of Situational Awareness

	Endsley's Three Levels of Situational Awareness
Level 1	Perception of the elements in the environment: It is awareness of the elements (which may be objects, events, people, systems, environmental factors) and their current states (e.g., locations, conditions, modes, actions). Thus, Level 1 SA involves not only recognition of the relevant elements, but also on-going monitoring the elements since they may change over time.
Level 2	Comprehension of the current situation: The next level of SA involves a synthesis of the elements in order to comprehend the situation. That is, Level 2 SA requires integrating the information perceived in Level 1 in order to understand significance of the elements on the desired goals or outcomes. Level 2 SA results in a holistic understanding of the environment that allows for the comprehension of the significance of elements and events.
Level 3	Projection of future status of the situation: Future status of the elements in the environment. Given perception and comprehension of the situation (Levels 1 and 2 SA), Level 3 SA is achieved by using this information to project likely future states of the environment that are important or useful for decision making.

Note: Adapted from Fricker, R. D. (2013). *Introduction to Statistical Methods for Biosurveillance: With an Emphasis on Syndromic Surveillance*. Cambridge University Press.

## Negotiation Skills

In today's dynamic operational environment, a soldier must negotiate as a critical warfighting skill (Vane, 2011). Coalition forces in Iraq and Afghanistan has shown the soldiers negotiation skills influence key leaders in the area of operations (Vane, 2011). Whether the negotiation is with key village elders, host nation partners, or nongovernmental agencies, cooperation, negotiation, and respect are factors in the greater strategic picture (Vane 2011).

A recent study in the Harvard business review looked at how soldiers in Afghanistan resolve conflict and influence others in dangerous situations. The results brought to light five effective strategies in the table below (Weiss et al, 2010).

Table 8: Extreme Negotiation Strategies

Focus	Description
Get the Big Picture	Start by soliciting the other person's or group's point of view. Use what you learn to shape the objectives of the negotiation and to determine how you'll achieve them.
Uncover and Collaborate	Learn the other party's motivations and concerns. Propose multiple solutions and invite your counterparts to improve on them.
Elicit Genuine Buy-In	Use facts and the principles of fairness, rather than brute force, to persuade others. Arm them with ways to defend their decisions to their critics, and create useful precedents for future negotiations.
Build Trust First	Deal with relationship issues head-on. Make incremental commitments to encourage trust and cooperation.
Focus on Process	Consciously change the game by not reacting to the other side. Take steps to shape the negotiation process as well as the outcome.

Note: Adapted from Weiss, J., Donigian, A., & Hughes, J. (2010). Extreme negotiations. *Harvard business review*, 88(11), 66-75.

### Analysis of the Literature Review

The overall theme of adaptability in the professional fields reflects an innovative way to achieve the end state.

Adaptability in the business world equates to achieving a competitive advantage over rival businesses. In order to gain and maintain the competitive advantage, companies must not only produce or deliver a service but must also rapidly adapt to signals of change in the environment (Martin et al, 2011). In summary, companies must be able to know how to do a certain service but also learn how to do new services to maintain position (Martin et al, 2011).

Adaptability in the medical field is comprised of three categories. The first theme is the doctor to patient relationship; the end state of this theme is to understand the culture and grievances of the patient and apply that knowledge to sustain well being. The second theme of adaptability is teamwork; the end state of this theme is efficiency of providing care in dynamic environments. The last theme is training medical students; the end state of this theme is to ensure the curriculum provides the best educational standards in line with today's changing state of medicine to prepare medical students to be doctors.

The concept of adaptability in the military centers on the fifteen themes in doctrine. This is a quality start but some of these themes must apply to real world actions to achieve relevancy at the tactical level. With the implementation of the Decisive Action Training Environment (D.A.T.E.) at the Combat Training Centers, Soldiers are training in a realistic scenario based on real world data. Home station training must be nested within current doctrine and the D.A.T.E. for maximum realism. Identification and application of the tactical themes of adaptability could be used a tool to drive training at home station.

The goal of the research is threefold. First, to identify the doctrinal themes that apply to tactical units. This will allow Soldiers to focus home station training objectives to in line with

current doctrine. Second, define how the tactical themes apply within the D.A.T.E. scenario. This will apply the context for home station training. Finally, analyze Soldiers' actions in Afghanistan during Operation Enduring Freedom to determined effects. This will provide a framework for real world incidents and consequences as a baseline for homestation training scenarios.

## CHAPTER 3: METHODOLOGY

### Overview

The framework for this analysis will research operational adaptability at the tactical level by looking at the “ends, ways, and means” strategy.

“Ends, ways, and means” is a U.S. Army War College strategic model first documented by Arthur Lykke (Lykke, 1989). Mr. Lykke authored a paper based on comments from General Talyor while giving a speech at the War College. In his comments, General Talyor defined strategy as the balance between ends, ways, and means against the risk.

- Ends- objectives towards which one strives
- Ways- courses of action
- Means- instruments by which some end can be achieved

First, the “means” will be analysis of key actions of tactical level operations in Helmand Province, Afghanistan from 2003-2008.

Helmand Province was selected for its strategic importance in the Afghanistan Campaign. Helmand Province is key terrain and central to the enemy and coalition forces campaigns for three reasons ( Dressler, 2009):

- Helmand province contains important lines of communication to support logistics supply and resupply
- Helmand is an agricultural center to support the Afghanistan populace
- Helmand is an economic center for narcotics

Second, the “ways” portion focuses on the key decision analysis by cross-referencing the actions against the fifteen themes in military doctrine and the Human Dimension Concept.

Finally, the “ends” will be three components:

1. Identify the definition of Operational Adaptability at the tactical level.
2. Identify traits that adaptable leaders need to exhibit in the operational environment.
3. Identify problems that need to be replicated in a simulated operational environment.

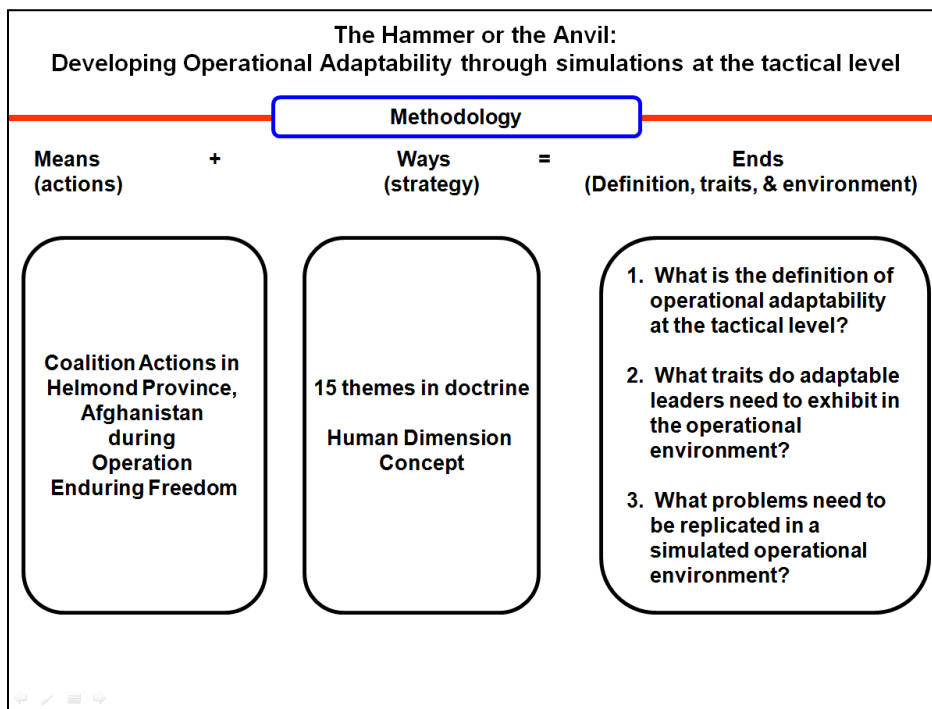


Figure 4: Methodology

Source: Author



## **CHAPTER 4: DISCUSSION**

### Analysis

The strategic landscape and emerging threats facing the United States of America are vast and complex (Center, 2014). Such threats range from traditional large scale armies with conventional tactics to non-state actors who utilize guerilla means. Social political factors, ambiguity, and regional instability are a few of the multi-faceted factors that compound today's war zones. Soldiers must be able to understand the complexity of the foreign environment while maintaining security and promoting governance. U.S. Army leaders must maintain situational awareness and adapt to the complexity of the operational environment through the human dimension concept.

The human dimension concept key tenets are physical supremacy, decisive cognitive edge, and cultural understanding over potential adversaries (Center, 2014). The recent white paper published by the United States Army Combined Arms Center describes the principles of the Human Dimension but lacks examples for clarity. The next section of the paper explores Coalition efforts in Afghanistan for real world characteristics of the human dimension. The region selected is Helmand province, a known stronghold for enemy operations (see Figure 6).

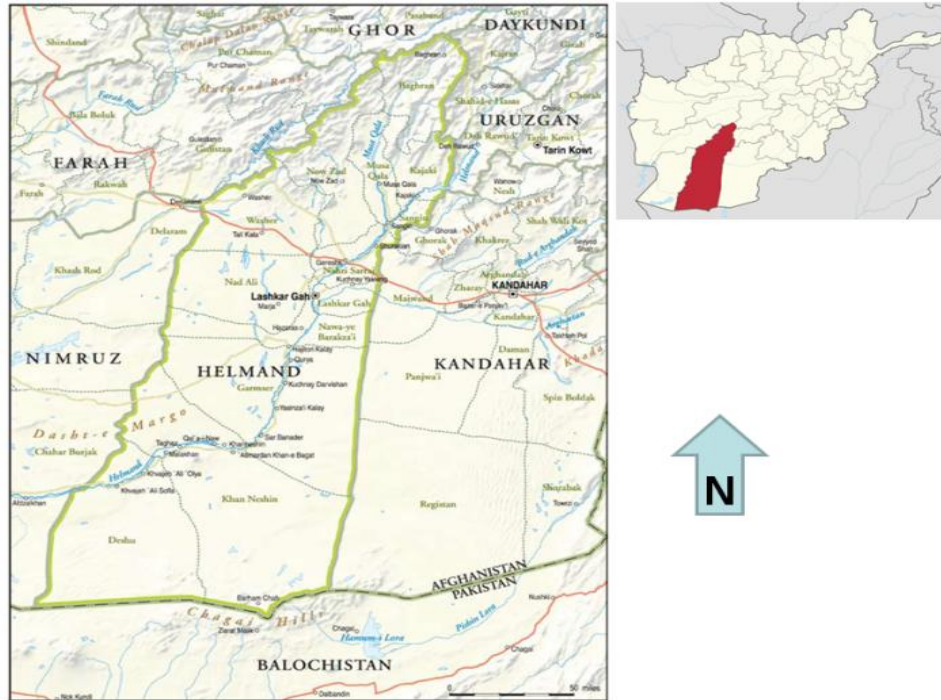


Figure 5: Helmand Province, Southern Afghanistan

Note: Adapted from Dressler, J. A. (2011). *Counterinsurgency in Helmand: progress and remaining challenges*. Institute for the Study of War.

OPERATION ENDURING FREEDOM commenced in 2001 with allied air strikes on Taliban and al Qaeda in response to the World Trade Center attack. The operation was launched to stop the Taliban from providing a safe haven and base of operations to al Qaeda in Afghanistan (CNN, 2015).

- 2002 January: Deployment of NATO International Security Assistance Force or ISAF (CNN, 2015).
- 2008 September: American troop levels are currently at thirty thousand in Afghanistan (Cbsnews.com, 2009).
- 2009 March: New strategy for “clear, hold, and build” for Afghanistan is unveiled. Additional forces are committed to train Afghan army and police (Dressler, 2011).

- 2009 December: U.S. boosts troop levels by thirty thousand; troop levels reach one seventy thousand in Afghanistan (Cbsnews.com, 2009).
- 2013 June: The Afghanistan National Army takes command from the North Atlantic Treaty Organization (NATO).

The presence of Coalition forces in the Helmand Province during 2003-2005 was limited due to the low overall troop levels in theater (see Figure 3). In 2006, the United Kingdom (UK) assumed responsibility of Helmand province, deploying over three thousand Soldiers and civilians to the area (Dressler, 2011). The area of Helmand province is approximately twenty-three thousand miles and over one million people (Pbs.org, 2009). Soldiers resorted to counternarcotics and peace support rather than anti-Taliban efforts because the UK forces did not have the requisite military force to cover the area (Dressler, 2011). With the UK forces spread thin across the countryside, the Soldiers formed in outposts composed of thirty man platoon formations. The Taliban gave significant resistance to the UK force; consequently, the outposts were constantly concerned with being overrun by enemy forces (Dressler, 2011). The limited amount of forces and vast amount of terrain left the UK Solders without the option to find, fix, and destroy the enemy forces.

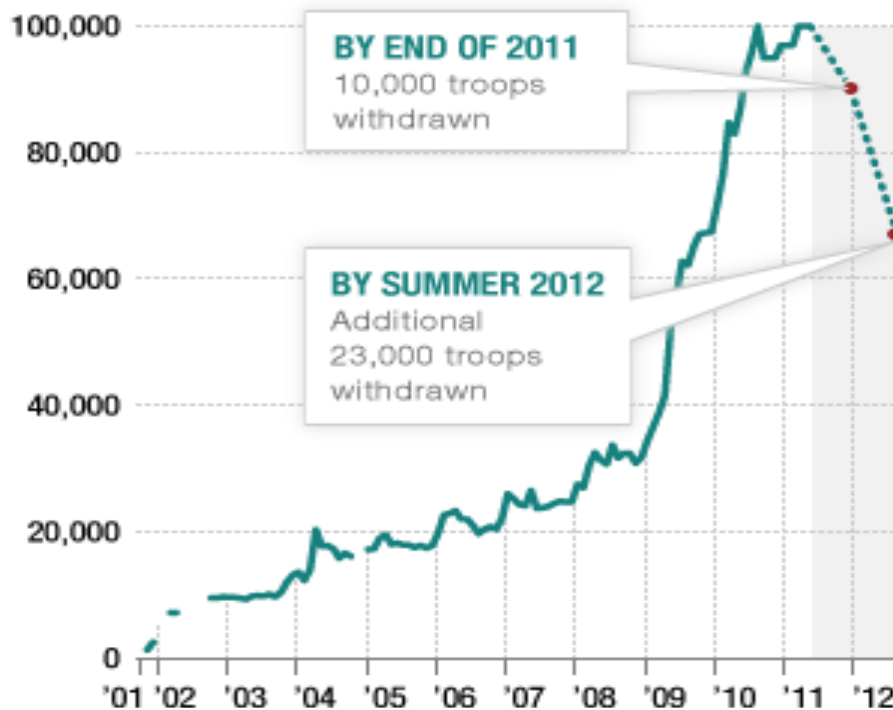


Figure 6: U.S. Troop Strength in Afghanistan.

Note. Adapted from Halloran, L. (2011). *GOP Finds Itself At A 'Pivot Point' Over Afghanistan*. *NPR.org*.

In July of 2009, approximately four thousand Marines were assigned to the Helmand Province to join forces with UK forces in an effort to provide comprehensive counterinsurgency and clear Taliban forces (Dressler, 2011). Because three-quarters of the population of Helmand live near the center of Helmand province, removing the Taliban from population centers was a central component to the Helmand counterinsurgency strategy (Dressler). Another component was to prepare for national elections in August, allowing the local population the opportunity to vote without Taliban influence. This plan was not successful for two reasons. First, the Coalition Forces attacked Taliban active areas but did not directly engage the main Taliban support area in the town of Marjah (Dressler, 2011). By not attacking the main support area, Taliban operations were not hindered. Second, the Coalition Forces were spread too thin with anti-Taliban operations and could not properly reset for security to the Afghan elections. As a

result, the voting turnout in Helmand province was approximately ten percent (Dressler, 2011). Even beyond August, the Taliban influence in Helmand province was significant (see Figure 8).

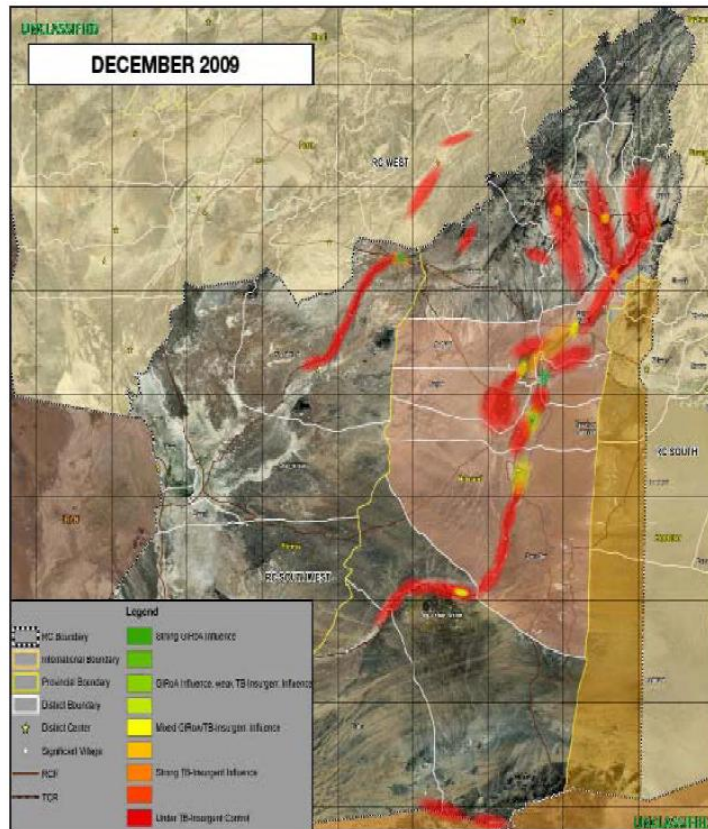


Figure 7: Taliban Influence in Helmand province.

Note. Adapted from Dressler, J. A. (2011). *Counterinsurgency in Helmand: progress and remaining challenges*. Institute for the Study of War.

From 2009-2010 there was a concerted effort to target the Taliban as part of the new strategy for “clear, build, hold” (Dressler, 2011). During this time, troop levels were increased by thirty thousand to allow for maximum coverage in the Province. Per Field Manual 3-24, Counterinsurgency, the three phases “clear, hold, and build” support of each other (Department of the Army, 2006):

- Clear the area by destroying, capturing, or forcing the withdrawal of insurgent combatants.
- Hold the area with security forces (ideally host nation forces) in order to effectively reestablish a host nation government presence at the local level.
- Build support for the host national government by protecting the populace and improving economic, social, cultural, and medical needs.

During the clear phase, Coalition forces had the manpower for more aggressive tactics to physically separate the Taliban from the populace. The Taliban forces were forced to the outer mountainous regions (Dressler, 2011). Coalition air assault missions from the Marines targeted Taliban strongholds, including headquarters and supply lines resulting in a disruption of Taliban forces in the southern Helmand province (Dressler, 2011). The Marines then stayed within the villages to show support to the local population (Dressler, 2011). Although the Marines presence deterred Taliban infiltration, the extremist group still influenced the populace with threats and intimidation. Having cleared the Taliban from population centers, the focus on holding the ground and training the Afghan National Army (ANA) began (Dressler, 2011). During this time, the increased Coalition attacks forced the Taliban to relocate to the northern portion of Helmand province (Dressler, 2011).

From 2010 to 2011, while ANA forces built up their security capacity by conducting joint operations beside Coalition forces, the Afghan National Police (ANP) did not have the same success (Green, 2014). Riddled with corruption, the ANP training was met with mixed results. To combat corruption, Coalition forces set up a Helmand Police Training Center and empowered local tribal chiefs to nominate recruits, but without significant progress (Green, 2014).

It was also during this time that the Government instituted an alternative food program for farmers where wheat crops would be subsidized as an incentive not to produce poppy (Dressler, 2011). The alternative food program had three initiatives: produce more food for the local populace, increase commerce, and not support the Taliban's narcotics trade. Poppy is the base agriculture for opium, the Taliban smuggles the product out of the country to Russia or other Central Asian republics for refinement (US Department of Defense, 2012). By 2012, poppy fields were reduced by only fifty percent in Helmand province (Dressler, 2011). This has been a source of contention because the U.S. applies a policy of drug eradication within America, but tolerates the growing of poppy in Helmand province for fear of the population turning against U.S. Forces and the local government.

Another source of contention is the Kajaki dam. The Kajaki dam was built by the U.S. in Helmand province during the 1950s (Perry, 2010). Once the structure was built, the Soviet invasion of 1979 disrupted the installation of the turbines. Although two turbines were installed after the Soviet withdrawal, the U.S. attacked and bombed the dam during the start of OEF in 2001 (Standifer, 2014). As of 2014, the two turbines are operating, but not at premium output due to a low budget and old parts. The installation of a third turbine to double the output of electricity has been hampered by Taliban efforts (Standifer, 2014). Civil engineers will not work in the Kajaki dam due to security concerns. This project was a ten year long odyssey and the current plan is to turn the unfinished dam over to the Government of Afghanistan for completion. General Petraeus, former CENTOM Commander, described the Kajaki dam as a classic case of "overpromising and under-delivering" (Pratt, 2013).

In addition, the Taliban gained credibility by settling land disputes (Dressler, 2011). With land at a premium for an agrarian province, land disputes were significant. The new

Afghan government did not have a good system such as deeds or records. As a result, the Government could not provide judgment in land disputes, so the Taliban filled that role for the local populace (Dressler, 2011).

By the end of 2012, Taliban forces were physically separated from the population, but had switched their tactics to assassinations and suicide bombers (US Department of Defense, 2010). These high profile attacks inflicted damage to Coalition forces and increased Taliban intimidation efforts on the populace. However, positive Coalition efforts were emerging. The number of schools, hospitals and medical clinics doubled to support the local province. Roads were built between the two provinces of Helmand and Kandahar spawning commerce and trade.

As commerce and trade were improving, there were other initiatives to support the economy. One example was the Commander's initiative projects to pay local men a daily rate to clean out irrigation systems and improve waterways for farming. This daily employment combated the Taliban influence by providing economic options to the general population. The Afghan Government also created a program of reintegration for current Taliban members. For military aged male, the Taliban member would sign a document renouncing his Taliban allegiance in exchange for vocational training. The local employment and reintegration programs had a negative impact on Taliban efforts, but a positive influence on the populace and local government. Cross referencing the Coalition efforts against the Human Dimensions characters portrays four outcomes.

- Physical Supremacy: There is no doubt that Coalition dominated physically on the battlefield, but the Taliban still had influence over the population after the new tactics of suicide bombers and assassinations.



- **Decisive Cognitive Edge:** The projects to support governance with daily employment and reintegration were key aspects but had limitations. For example, the daily employment of military aged males in clearing irrigation systems is a U.S. supported effort and may be temporary. Once the U.S. forces withdraw from Afghanistan, the perception is the program will withdraw as well (Jones & Crane, 2013). The reintegration project also provided quality vocational training for the long term aspects of the program. Reducing the poppy field production by growing subsidized wheat has significant impact, but the wheat production may decrease with U.S. forces withdrawal.
- **Cultural Understanding over Potential Adversaries:** Doubling the amount of schools and access to health care provided a long-lasting and positive effect. Improving the roadways allowed for better transport to the markets which improved commerce. Unfortunately, the roadways also served as opportunities for the Taliban and criminal elements to set up illegal checkpoints. With some many people on the road, these checkpoints were used to extort illegal tolls.
- **Taliban Accomplishments to their Cause:** Even though the Taliban were forced out of populated areas, their intimidation influence with the high profile attacks allowed their group to remain relevant. The use of illegal checkpoints worked against the government. The Taliban system for land disputes also worked against the government and gained the Taliban credibility.

### Findings

A review of OPERATION ENDURING FREEDOM does indeed show characteristics of the human dimension from Coalition forces. Although, some would argue the successful efforts

of the Coalition in Afghanistan are weighed against the extended timeframe and number of casualties. It is clear that lessons learned in OEF are being translated into the CSA's current strategy of "prevent, shape, and win". Additionally, a comparison of the strategies of "prevent, shape and win" reveals similarities to "clear, hold, and build" (see Figure 5).

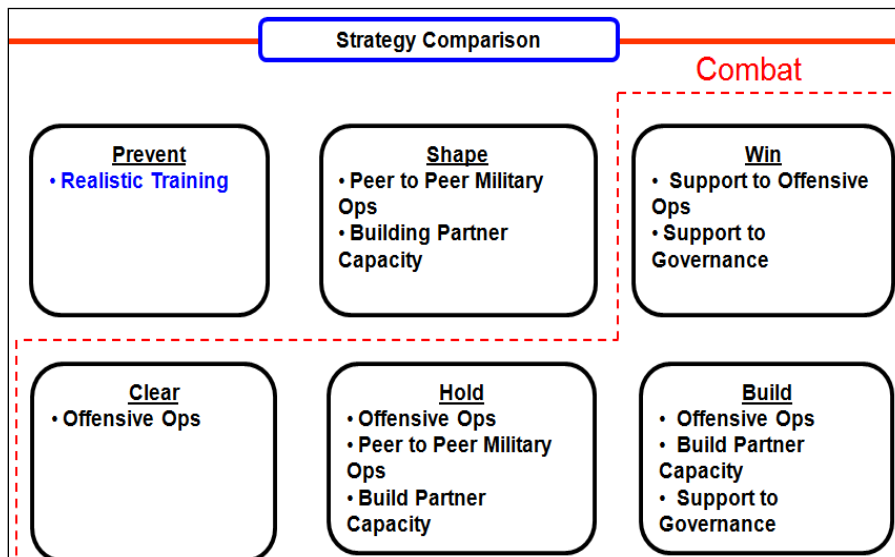


Figure 8: Strategy Comparison.

Source: Author.

In comparing the two strategies, providing stability operations up front and building host nation governance capacity are key. In the prevent-shape-win strategy, the stability operations and building host nation governance is prior to potential combat operations. In the clear-hold-build strategy, the stability operations and host nation governance was during combat operations. By providing stability to host nations prior to combat operations the host government can mature into a credible system. Humanitarian assistance, disaster relief, and peer-to-peer military partnership all provide conditions to assist in security. Ensuring host nations are able to effectively govern themselves offers potential to avoid a failed state status.

## CHAPTER 5: CONCLUSION

The overall concept of this paper is how to develop operational adaptability through simulations at the tactical level. The importance of this topic is twofold with lessons learned from past conflicts and preparing soldiers for future conflicts. During the past ten years of war in Iraq and Afghanistan, the knowledge and combat experience has potential to dissipate from the soldiers' ranks without a system to formally capture the information and inject that experience back into the U.S. Army through the training of operational adaptability to new recruits. Reference preparing soldiers for future conflicts, the world will continue to have instability and the complexities of modern war will increase as technology and societies advance.

To understand operational adaptability, the three research questions must be answered.

1. What is the definition of operational adaptability at the tactical level?
2. What traits do adaptable leaders need to exhibit in the operational environment?
3. What problems need to be replicated in a simulated operational environment?

First, the definition of operational adaptability at the tactical level. Per the Army Capstone Concept, the definition of operational adaptability is “the ability of Army leaders, Soldiers, and civilians to shape conditions and respond effectively to a broad range of missions and changing threats and situations with appropriate, flexible, and responsive capabilities” (Training and Doctrine Command, 2012). The above definition is correct within the context of doctrine. For application of operational adaptability at the tactical level in a combat operation, the definition encompasses much more. Per the analysis, I would argue that the definition of operational adaptability is a broad idea of intertwining concepts specific to that geographical area and constantly changing based on actions. The definition of operational adaptability at the

tactical level is regionally dependent and varies from one location to the next based on geography, abilities of host nation forces, resources available, enemy forces capabilities, population perception, and a host of other specifications. The way to approach problems in one region is vastly different from another region. Defining operational adaptability at the tactical level is not enough; one must define operational adaptability at the tactical level in a specified geographic location in order to start understanding the process. This is why the U. S. Army's new strategy of Regionally Aligned Forces (RAF) is so important. It will allow combatant commanders the continuity of assigned forces married with the continuity of regional information. With RAF, collective regional institutional knowledge will allow units to define operational adaptability as it pertains to their area of operations and incorporate that information into training events. In addition, the CSA's strategy of "prevent, shape, and win" allows leaders to better understand and practice tactics within their region as part of the regionally aligned forces.

In reference to the second research question, what traits do adaptable leaders need to exhibit in the operational environment? The analysis presents several characteristics that are already embedded within doctrine.

- Situational awareness
- Mental Agility
- Cultural understanding
- Decisive cognitive edge
- Sound Decision Making

Although all of these traits are important, at the tactical level for a specified region, having situational awareness is the critical foundation for the other traits to expand. For example, a leader cannot have mental agility to avoid negative aspects and exploit positive aspect until that leader has situational awareness of the environment and people. For that leader, situational awareness is specific to his or her exact tactical situation. Knowing the past and current history of the area of operations, the perception and grievances of the population, influential personnel, motivations, and what the past coalition forces leader's decisions and actions, are just a few of the informational processes to start understanding situational awareness at the tactical level.

The ability to gain situational awareness is another opportunity for success with the regionally aligned forces concept. The continuity of the RAF will allow soldiers to inquire how current units are maintaining situational awareness in that specific operational environment in order to be successful. During theater level training exercises, coalition forces will have the opportunity to interact with host nation forces and the population to allow for a first hand understanding of the culture within the region prior to a conflict within the region. This was not the case in the OPERATION ENDURING FREEDOM where soldiers deployed to Afghanistan with training beforehand and received an understanding of culture while in a combat zone.

As the U.S. Army continues to drawdown in force structure and redeploy from two wars on foreign soil, training will be an important topic for the foreseeable future.

In reference to the third research question, "What problems need to be replicated in a simulated operational environment?", the specific region will dictate the actual problems in that area to better prepare soldiers for deployment. Through this case study, the Kajaki Dam was identified as a major issue for coalition forces and the Afghan Government. Although coalition

forces made a valiant effort, the dam is not functioning to its full capacity due to two of the three turbines not working at full capacity. Every time coalition forces tried to get the right equipment and personnel to fix the dam, the Taliban was able to stop their efforts with direct and indirect attacks. The Taliban was able to capitalize on this event through information operations and articulate to the populace that coalition forces were responsible for not giving out the dam electricity. In addition, this non-event took credibility away from the Afghan government.

Another problem identified in the case study of Helmand province was land disputes. This was a big grievance of the populace without an official authority to solve disputes. The Afghan government did not have enough expertise and a proper land records system in place. Without another choice, the populace turned to the Taliban took advantage of this in terms of a business opportunity. Whoever gave the Taliban the most money, received the most justice in land disputes.

The identified problems of the civil engineering (Kajaki Dam) and jurisdiction (land disputes) are not usually trained as part of pre-deployment training but that sparks the question if these non-combat/civil issues should be integrated into future training.

In an effort to modernize training and include more civil challenges, The U.S. Army has done a great job with updating the Decisive Action Training Environment (DATE) scenario to replicate modern problems in a modern setting. Without getting into the details of the scenario, it has been implemented with success at the Combat Training Center in Fort Polk, Louisiana (Lopez, 2012). Although the DATE scenario is a valuable tool, there is a potential that the specific problems might not be applicable to Soldiers in a specific region. For instance, oil rights are a source of frustration for the various factions in the DATE scenario for the training

audience (soldiers) to work through but a soldier from the Korean peninsula might not be able to apply those specific training lessons learned to his/her area of operations.

Areas of operations are worldwide and governed by the Unified Combatant Plan. This plan defines the missions and geographic responsibilities of the seven combatant commanders (Defense.gov, 2016).

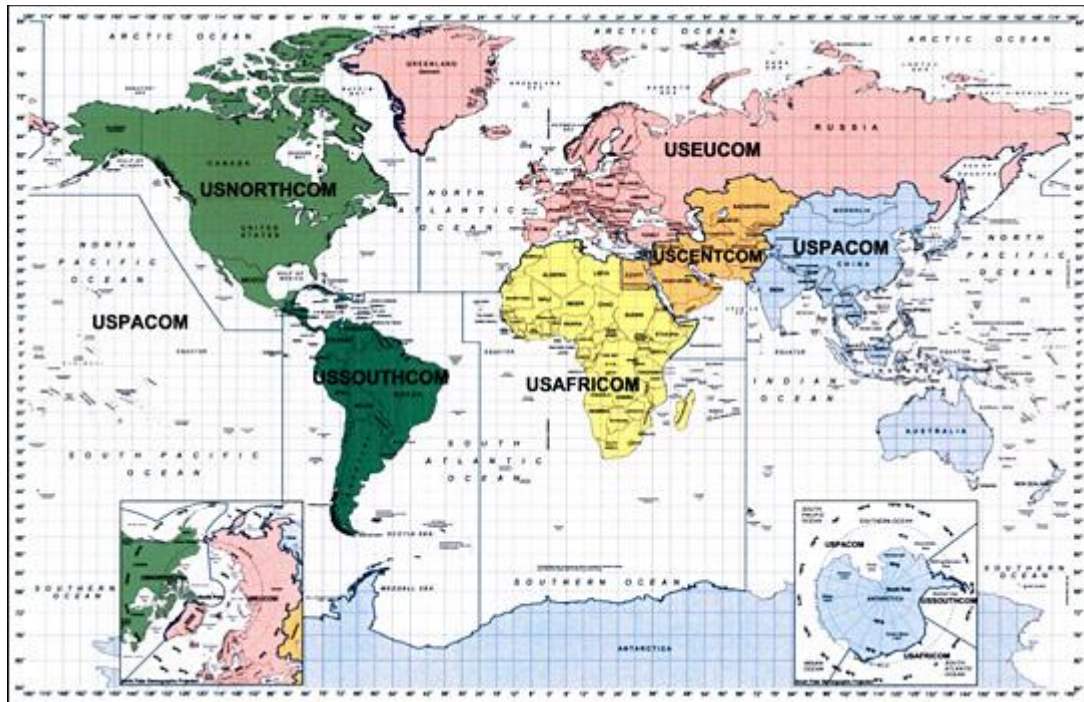


Figure 9: Unified Combatant Plan.

Note: Adapted from Defense.gov,. "U.S. DEPARTMENT OF DEFENSE > Sites > Unified Combatant Commands". N.p., 2016. Web. 25 Jan. 2016.

With the new “prevent, shape, win” strategy, units will be operating in one of the seven COCOM areas of the world for an extended time periods interacting with the host nation security forces and populace. Skills that influence and extenuate the human dimension should be practiced prior to any regional deployment. Negotiation is a key trait identified from the global war on terrorism (Tressler, 2007), but this case study indicates that other interpersonal skills such

as active listening and understanding body language would support also communication in the human dimension. The practice of information operations is another trait for improvement identified in the global war on terrorism (Mackin, 2004). The training of these and many other skills suggest that the replicating the training tasks in a specific area of operations has an effect on the ways and means of executing such tasks. For example, an information operation through the internet is not a viable means of communication in many parts of Afghanistan but the internet would be utilized extensively in Europe. Of course, these are two different combatant commands with two different missions but the practice of information operation plays a part in both so know the capabilities and limitations of host nation communication outlets is necessary for a viable plan of action. The same could be said of the training of interpersonal skills is also tied to a specific region in order to gain maximum effectiveness. Having the knowledge of the specific culture to understand what right looks like in body language and listening skills would be beneficial in the operational environment to supplement key decisions during conversations or negotiations.

The U.S. Army has a key phrase for training stating “train as you fight”. That being said, replication of the operational environment as much as possible is beneficial in training prior to a deployment. In terms of a simulator, the U.S. Army views tasks to be training. With seven combatant commands that span across the globe in support of the regionally aligned forces and the prevent shape, win strategy, the next natural step is training the task in the replicated virtual operational environment.

Soldiers will understand what right looks like with the RAF and the experience of the theater level security cooperation exercises working with host nation forces and populace. The ability to bring that knowledge back to home station and inject that regional and cultural



information into a simulator for home station training would start the basis for a foundation of regional training knowledge.

### Train As You Fight

The Greek Poet Archilochos stated “We don’t rise to our level of expectation, we fall to the level of our training” (Johnson, 2013), a powerful statement that directly ties to the modern U.S. Army doctrine. The U.S. Army adheres to principles of U.S. Army training for ADP 7-0, Training Units and Developing Leaders (Department of the Army, 2012):

- Commanders and other leaders are responsible for training.
- Noncommissioned officers train individuals, crews, and small teams.
- Train to standard.
- Train as you will fight.
- Train while operating.
- Train fundamentals first.
- Train to develop adaptability.
- Understand the operational environment.
- Train to sustain.
- Train to maintain.
- Conduct multiechelon and concurrent training

Digging deeper into the training principles, there are four key principles that set the conditions to train operational adaptability:

1. **Train as You Will Fight:** training under an expected operational environment for the mission. This means establishing in training what the unit can expect during operations to include the culture of an operational environment. Commanders and other leaders replicate cultural settings as much as possible during training, using role players or actual mission partners.
2. **Train while Operating:** Training continues when units are deployed or when conducting daily operations. As units operate, they learn from formal and informal after action reviews. They train to improve performance and address changes in tactics, techniques, and procedures that affect the operation.
3. **Leaders Train to Develop Adaptability:** Effective leaders understand that change is inevitable in any operational environment. The time to react to change can be short. Adaptability comes from training under complex, changing conditions, with minimal information available to make decisions.
4. **Understand The Operational Environment:** An operational environment establishes the conditions for training. The conditions are drawn from the operational variables—known as PMESII-PT—that must be replicated to prepare the unit for operations. The unit training management operation order establishes the conditions that units must meet for training.

When those four key training principles are applied to a training simulator, characteristics start to appear.

1. **Train as You Will Fight,** the key themes in this definition is training under the expected operational environment and the culture of the operational environment. The simulated training environment must replicate the deployed environment, to

include the culture. Applied to the RAF, the specific geographic location and regional culture should be simulated (not a generic environment in a common training scenario).

2. Train while Operating, the key theme is “improve performance and address changes in tactics, techniques, and procedures that affect the operation”. This theme takes focus on the specific operation or mission for the unit. This is another indicator that the simulated training environment must replicate the deployed environment, to include the culture. It is also unit responsibility to have multiple after action reviews during their tour in the RAF to build the knowledge to improve performance.
3. Leaders Train to Develop Adaptability: The key theme is “adaptability comes from training under complex, changing conditions, with minimal information available to make decisions”. Based on the previous two themes, it is inferred that the complex and changing condition should be based on the regionally supported information.
4. Understand The Operational Environment: The key themes are that “operational environment establishes the conditions for training” and “conditions are drawn from the operational variables—known as PMESII-PT—that must be replicated to prepare the unit for operations”. This is not inferred but stated that that, in terms of a training simulator, the regional area of operations must be replicated to best prepare the units prior to and during the deployment.

### Building a Better Training Simulator

With the assumption that a training simulator must replicate the regional aspects of terrain, culture, and complexity of regional to facilitate training, the next natural question is how is this information gathered and injected into training scenarios. The ideal situation is a training system based on their regionally aligned forces area of operations. With the seven combatant commander's areas, one thought is to build seven different training simulators to replicate each of the specific areas regional terrain and culture. This would accomplish the mission but an argument can be made that the process may be too expensive. Another thought more aligned with the principles of training is to build one open world virtual simulator and allow soldiers to opportunity to build their own training scenarios based on their own experiences in the regionally aligned forces exercises. This would be better for three reasons relating to replicating the area, relevance, and training while operating. First, the training scenarios would actually replicate the terrain and culture of the region. If the training scenarios did not do an adequate job of replication, soldiers would have the ability to modify the training scenarios to standard. Second, the relevance of the scenario would be high due to the continual updating and medication by soldiers to align to the region. Finally, the open world simulator would provide the opportunity to train while operating would improve performance of the unit through lessons learned. In addition, the lessons learned captured I the training scenario would be valuable for other units in the brigade and future unit deploying to the region.

### Limitations

Three major limitations arise to developing a training simulator to develop operational adaptability; funding, a change in training support, and replication of culture.

With any new project, funding is essential. Starting a new training simulator project could require a massive amount of money in today's fiscal environment. Although the justification for a new simulator to train operational adaptability may be there, the funding may not. Implementing requirements over a multiyear approach or utilization of an existing system that could be modified to support the development of operational adaptability training would be beneficial.

In a 2013 article, then commander of TRADOC, General Robert W. Cone stated that soldiers have "lost ownership of their training" during the global war on terrorism due to centralized training and training resources to facility missions readiness for Iraq and Afghanistan. This allowed brigades to be trained to maximize efficiency but at the cost of not allowing small unit leaders to design their individual unit training plans (Cone, 2013). As we transition back to small unit leaders designing their own training, training systems need to be designed with the mindset that not all small units have the same training needs. One common training scenario or training system without the ability for soldiers to modify will not maximize training with the regional aligned forces concept.

Replicating culture in a training scenario is a difficult task. Capturing the cultural complexities of a region accurately is a long and arduous task. Training simulators such as the Bilateral Negotiation Trainer (BiLAT) do a quality to prepare soldier for the culture of their region but fully integrating culture into maneuver trainer is the next logical step towards the principle of train as you fight. The difficulty will be high but that should not stop efforts to achieve that goal (even partially at first). The value may not come during actual combat training but the effects of the weapons and battle on the local populace is a challenge soldiers should be able to train for since that scenario will happen while deployed.

### Future Research

As the military gears training towards specialized region, the act of cuing in learning should be researched to maximize training effectiveness. Positive cueing strategies to enhance learning may help soldiers digest the vast amount of information prior to complex training scenarios.

### Final Thoughts

The U.S. Army is changing the way it trains and fights with the regionally aligned forces concept and the “prevent, shape, win” strategy. As the military adjusts to redeploying from the global war on terrorism and our own fiscal constraints, it is clear within doctrine and strategy that large unit homogenized training scenarios, based on geo typical terrain, with limited cultural impacts does not maximize training. Small unit training with a regional terrain and culture enhances modern training effectiveness.

In terms of a simulator to support training:

- Army Strong: Soldier centric (creating, executing, AAR, modifying, repeat)
- One Size Does Not fit all: Program would provide a general sandbox , but Soldier input for regional specific characteristics such as:
  - General history,
  - General Perception
  - General Grievances
  - Key Characters
  - Current state of opinions
  - Predecessor's decision and actions
  - Train as you fight

➤ Authenticity over fidelity and graphics

Due to potential budget constraints, not all brigades will be afforded a CTC rotation (Freedberg Jr, 2014). This places even more emphasis to maximize home station training. With the Regional Aligned Forces concept, home station training has the potential to have equal to or a better grasp of the operational environment than a Combat Training Center. This highlights that fact that regionally authentic training with soldier centric usability will be critical to maintaining a high level of readiness.

As Sun Tzu, the great military strategist stated, “Know thyself; know the enemy; fear not for victory. Also, is the season and the opportunity be realized, and the ground known, complete victory is certain” (Tzu, 2013).

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