A Knowledge Taxonomy for Army Intelligence Training: An Assessment of the Military Intelligence Basic Officer Leaders Course Using Lundvall's Knowledge Taxonomy

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The opinions and conclusions expressed herein are those of the author and do not necessarily represent the views of the United States Army or any other governmental agency.

Abstract

Purpose: The events of September 11, 2001 and the succeeding wars in Iraq and Afghanistan changed intelligence requirements from those of the Vietnam era and the cold war. As a result, intelligence training was modified to keep up with matters such as globalization and counterinsurgency operations. This dynamic operational environment thus necessitates constant evaluation of intelligence training practices. This research has two purposes. First, it explores the different types of knowledge involved in military intelligence training. Second, it uses Lundvall's Knowledge Taxonomy to assess the types of knowledge acquired through intelligence training at the Military Intelligence Basic Officer Leader's Course (MIBOLC). The four evaluated knowledge categories are *know-what*, *know-how*, *know-who* and *know-why*.

Method: In conjunction with Lundvall's knowledge taxonomy, this research uses four working hypotheses to explore the different types of knowledge that intelligence training provides to company-grade Army intelligence officers. While initially based on the taxonomy, the working hypotheses contain intelligence-related topics found in the literature supporting the postulated knowledge categories. Each working hypothesis contains sub-hypotheses that are used to supplement or reinforce their corresponding expectation. A case study methodology is used to assess the types of knowledge acquired at the MIBOLC. The data-collection techniques used in this research are document analysis, structured interviews, and direct observations.

***Findings*:** The results strongly support the existence of know-what and know-how knowledge training at the MIBOLC. Know-who and know-why knowledge training is also present but only in limited to adequate amounts. While the course provides a foundation for conducting intelligence analysis, two areas of instruction need improvement: fostering interpersonal relations and developing higher order thought processes. These findings are in line with Major General Flynn's 2010 assessment of intelligence operations in Afghanistan, where population-centric information gathering and adaptive thinking better support counterinsurgency operations (2010, 5,15). Improving the areas of know-who and know-why will support current operations by placing more emphasis on people and on how to think critically and adaptively. These findings apply to intelligence leaders at the United States Intelligence Center and to Brigade Combat Team commanders and intelligence officials. Improving know-who and know-why knowledge at the school-house and tactical levels will provide junior officers the ability to critically analyze the central intelligence aspect of counterinsurgencies, the people. Not improving know-who and know-why knowledge will limit an intelligence officer's abilities and therefore perpetuate a reluctance to view counterinsurgency operations in a holistic manner.

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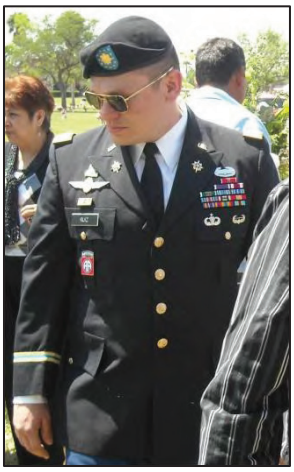
About the Author

Major Victor H. Ruiz entered the Army in San Antonio, Texas, on May 13, 2000. He has served in a variety of positions, including battalion intelligence officer, support platoon leader, ground surveillance radar platoon leader, intelligence analyst, assistant battalion operations officer, brigade intelligence training officer, brigade intelligence targeting and plans officer, military transition team intelligence officer, battalion operations officer, and company commander. He has also deployed twice in support of Operation Enduring Freedom.

Major Ruiz has completed the Military Intelligence Basic and Captain's Career Courses. He holds a degree in Criminal Justice with a minor in Spanish from the University of Texas at San Antonio.

His awards and decorations include the Bronze Star Medal (with one oak leaf cluster), Purple Heart, Army Meritorious Service Medal, Army Commendation Medal (for valor and with two oak leaf clusters), Joint Services Achievement Medal, Army Achievement Medal, Combat Action Badge, Senior Parachutist Badge, Air Assault Badge, German Armed Forces Proficiency Badge, and German Parachutist Badge.



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Chapter I: Introduction

Perspective

"Sir, wake up Sir." "I'm up, what time is it?" "Zero one hundred, Sir." "Roger." It's a hot and dry summer morning as Second Lieutenant Martinez wakes and prepares his equipment for the long drive into Iraq. It's August, 2003, and Lieutenant Martinez is a newly assigned intelligence officer with 2nd Battalion, 504th Parachute Infantry Regiment. He graduated from the Military Intelligence Basic Officer Leaders Course in late May and has been anticipating this moment all summer. But as h-hour nears, he feels a tightening in his chest and reflects on the recent intelligence reports he diligently read over the past several weeks. Much of the information depicts an end to major combat operations and illustrates the beginning of an insurgency. While confident in his abilities as an intelligence officer, he can't help wonder whether he is truly ready. A large amount of the instruction he received at the basic officer's course was based on former Soviet Union doctrine. He saw how this training applied to the beginning of the war, but the situation was changing. He wondered whether he possessed the necessary knowledge and skills needed to collect intelligence in an asymmetric environment. Its fifteen minutes until h-hour; ready or not, he's going.

Fifteen years later the young intelligence officer, who made the long and deadly drive into Fallujah, is now a Lieutenant Colonel and the 304th Military Intelligence Battalion Commander. He is now responsible for the Military Intelligence Basic Officer Leaders Course. During his first few days in command, he reflects back to his younger days as lieutenant. As he introduces himself to the classes of the basic officer's course, he feels that same tightening in his chest and thinks, "What do these young officers need to know?" Lieutenant Colonel Martinez feels that tightening even more because he knows that many of his students will go into combat

after graduation. He will do everything he can to educate and train his officers to fight the new enemy. As with the threat of a decade and a half ago, the new enemy is a dynamic one who uses adaptive, critical, and creative thinking.

The previously mentioned scenarios reflect the evolving nature of potential U.S. adversaries. In order to confront current and future opponents, the United States Army trains and educates its personnel on the capabilities, strengths, and weaknesses of threat forces. Intelligence training is one mechanism used. Globalization, current counterinsurgency operations, and the dynamic operational environment make intelligence training a vital Army function. While intelligence training serves many purposes, the knowledge it conveys is generally found in four areas;[1] what facts intelligence officers should know, how to apply intelligence skills, who an intelligence officer should know, and the understanding (or "why") behind certain actions. Viewing intelligence training in this manner represents the use of knowledge management, more specifically a knowledge taxonomy.

Taxonomy and Case Study

The taxonomy involves four specific knowledge categories, which are derived from Bengt-Åke Lundvall's economic analysis of knowledge. The first category, know-what, refers to knowledge about facts. The second, know-how, pertains to knowledge about skills. The third, know-who, refers to knowledge about social relationships. The fourth, know-why, corresponds to knowledge about cause-and-effect relationships.

The application of Lundvall's Knowledge Taxonomy to military training was first proposed by David Schmidtchen (2006, 150). In his book, *The Rise of the Strategic Private:*

[1]Observations and views by MAJ Ruiz.

Technology, Control and Change in a Network Enabled Military, Schmidtchen discusses how knowledge is well understood in the military, but how it's organized is a different matter.

This study uses Lundvall's Knowledge Taxonomy[2] to examine the training of Army intelligence officers at the Military Intelligence Basic Officer Leaders Course. Each knowledge category is first discussed in detail. The study then uses the taxonomy to identify the different types of knowledge involved in intelligence training. The research methodology used to evaluate these aspects is a case study along with document analysis, structured interviews, and direct observations.

The Military Intelligence Basic Officer Leaders Course consists of six sections or modules (A through F). Each module incorporates classroom instruction and practical-application exercises. The modules build on each other; lesson learned[3] are applied throughout the intelligence course. Module A involves basic soldier skills such as rifle marksmanship and land navigation. Module B covers the contemporary operational environment, intelligence preparation of the battlefield, and the military decision-making process. Module C discusses counterinsurgency operations and asymmetric warfare (Gilman 2009, 3). Module D emphasizes the practical applications of the lessons learned in Modules B and C. A multiple-day exercise that resembles events in Iraq is conducted under this module. Instruction under module E includes overviews of different intelligence disciplines such as imagery or human intelligence. Module F integrates enlisted personnel and company-grade officers in a capstone training exercise at the Joint Intelligence Combat Training Center (Gilman 2009, 3).

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[2]For an example of a Texas State University Applied Research Project that uses Lundvall's Knowledge Taxonomy see James T. Swift (2010).

[3]The Center for Army Lessons Learned (CALL) defines lessons learned as "validated knowledge and experience derived from observations and the historical study of military training, exercises, and combat operations that lead to a change in behavior at either the tactical, operational, or strategic level or in one or more of the Army's domains."

Relevance

The evaluation of intelligence training is important for several reasons. First, intelligence analysis is complicated process that involves several steps. Each step is further complicated when additional or new information is incorporated into the intelligence process. Second, intelligence analysis contains cognitive biases.[4] These are mental errors that are predictable and consistent, and are caused by subconscious mental procedures that lead to simplified information processing strategies (Heuer 1999, 111). With respect to intelligence analysis, Heuer (1999, 111) discusses four types of cognitive biases: biases in the evaluation of evidence, biases in the perception of cause-and-effect, biases in estimating probabilities, and hindsight biases in the evaluation of intelligence reporting. Understanding what these biases are and how they affect individuals can improve intelligence analysis. Third, intelligence analysis requires higher order thinking. Thought processes such as critical thinking provide analysts the tools needed to conduct intelligence analysis in different ways. Finally, the evaluation of intelligence training keeps up with the changing ecology of knowledge (Schmidtchen 2006, 146). Concepts such as increased connectivity, dynamic environments, asymmetric warfare, and an expeditionary mindset (Shields 2009, 4) modify the way knowledge is classified and used. Understanding the changes in knowledge provides ways to improve intelligence training.

Research Purpose

The motivation for this research is based on two situations[5] experienced by this study's author. The first situation involves the author's training at the basic officer's intelligence course. Ten years ago, the course offered intelligence training on large-scale conventional warfare.

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[4]See Richards J. Heuer's *Psychology of Intelligence Analysis* for more on cognitive biases.
[5]These views and opinions are based on MAJ Ruiz's experience. They do not reflect the Army's position or that of any other intelligence officer.

While it served as a basis for conducting intelligence analysis, it provided little training on counterinsurgency operations. Intelligence training was set up to support U.S. military dominance; however, training on the anticipation of future engagements was lacking. The second situation pertains to a frustration experienced after completing the basic course. While the course conducted training on basic intelligence analysis, it did little to provide alternative thought processes. This led to a rigid way of thinking that hampered creativity and imagination. The course also failed to provide a comprehensive understanding of intelligence analysis. It provided in-depth training on several different skills, but seemed to lack instruction on how they all fit together. This led in an inability to understand the reasoning behind certain actions or why one intelligence method was chosen over another.

This study supplements contemporary evaluation practices by utilizing Lundvall's knowledge framework. This method provides intelligence officials with a different way to view intelligence training at the basic officer's course. This applied research project[6] therefore has a dual purpose. The first is to explore the different types of knowledge involved in military intelligence training. Second, Lundvall's knowledge taxonomy is used to assess the types of knowledge acquired through intelligence training at the Military Intelligence Basic Officer Leaders Course.

Chapter Summaries

Chapter one provides an introduction to the research on knowledge categories and intelligence training. The chapter also states the research purpose and presents some information on the case study used in this research. Chapter summaries are also provided.

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[6]For examples of military-related Texas State University Applied Research Projects see Moses T. Ruiz (2009) and Anthony Bowman (2005).

Chapter two examines scholarly literature on knowledge management in the Army. The first part of the chapter develops the historical context and discusses the need for intelligence transformation. The next section explores knowledge management and knowledge categories. The third part discusses the use of Lundavall's knowledge taxonomy as it applies to intelligence training. A summary of the conceptual framework is presented at the end of the chapter.

Chapter three describes the research methodology used to assess the types of knowledge acquired at the Military Intelligence Basic Officer Leaders Course (MIBOLC). The chapter also discusses the operationalization of the conceptual framework and examines some of the advantages and disadvantages of the chosen research method.

Chapter four provides the results of the MIBOLC case study. Results with respect to the use of document analysis, structured interview, and direct observation for each working hypothesis are presented in this section.

Chapter five provides recommendations and conclusions based on the MIBOLC case study. The chapter also provides information on possible biases associated with this research. Additional findings and suggestions for future research are also presented in this section.

Chapter II: Literature Review

Chapter Purpose

This chapter examines scholarly literature on the application of knowledge management techniques in Army officer intelligence training. The first part of the chapter develops the historical context and discusses the need for intelligence transformation. The next section explores knowledge management and knowledge categories. The third part discusses the use of Lundvall's knowledge taxonomy as it applies to intelligence training. Finally, a summary of the conceptual framework is presented.

Historical Context

The practice of intelligence gathering and training predates the formation of all modern states and military forces. According to Finnegan and Danysh (1998, 3), "Military intelligence – the collection of information by commanders on the enemy and the battlefield environment they must confront – has existed since the beginnings of armies and of wars." Governing bodies throughout history used intelligence, specifically military intelligence, to advance their respective economic, political, and social interests. The United States is no different; military intelligence is modified and utilized in support of wars and contingency operations.

Shifting security concerns continue to alter the use of military intelligence for the U.S. Events of the 19th century, such as the American Civil War and World Wars I and II in the 20th, used intelligence in different ways to support security policy. During these eras, the U.S. Army underwent a transformation to better support its intelligence operations. Agencies such as the Army Security Agency were created to facilitate training and support national security objectives (Finnegan and Danysh 1998, 109-113). Other events of the 20th century, such as the Cold War, shifted U.S. security policy toward a large-scale conflict (Shields 2009, 4). This required a

further transformation of intelligence and intelligence training. Brown (2002, 9) discusses two Army transformations. The first pertains to the Army's rebuilding after the Vietnam War, culminating after Operation Desert Storm. The second transformation involves two simultaneous tasks: responding to evolving conventional threats and aysmmetric attacks at home and abroad, and "transforming the Army's conventional forces to conduct substantially different joint and combined operations in the future" (Brown 2002, 9).

The events of September 11, 2001, and the succeeding wars in Iraq and Afghanistan changed intelligence requirements once again. Military forces are now engaged in armed conflicts and stability operations in areas with asymmetric threats (Shields 2009, 5). According to Kimmons (2006, 69), "We are fighting smart, adaptive, ruthless opponents who leverage globalization, employ asymmetric tactics, and conduct deliberately brutal, indiscriminate attacks on an unprecedented scale." To handle this new threat and its associated intelligence requirements, the U.S. Army once again shifted its intelligence training strategy. Central to this new approach is the brigade combat team (BCT) (Kimmons 2006, 69).

Intelligence Transformation

According to Bonin and Crisco (2004, 21), now is the time for the Army to "refocus on its previous tactical echelon the brigade to restructure the Army for the 21st century." To increase the operational capacity at the BCT level, Army intelligence is changing its organization and training to better provide fused, all-source, intelligence (Kimmons 2006, 69). Kimmons (2006, 69) outlines four components essential to this transformation: increasing military intelligence ability and skills; enabling distributed access to an all-source, flat, integrated network; revitalizing human intelligence; and increasing intelligence readiness. These elements allow

BCTs and subordinate battalions to quickly detect, track, and target enemy activities with minimal assistance from higher levels (Kimmons 2006, 69).

The Army's decision to move from a division-centric to a BCT-based warfighting force made having dynamic intelligence capabilities at BCT level an operational imperative (Kimmons 2008, 196). This approach required the Army to transform its education and training system. To further illustrate this point, Scales (2006, 37-38) discusses two Army learning revolutions. The first involves the creation of a system of force-on-force exercises conducted at places such as the National Training Center (NTC). These exercises were created in response to conventional threats the U.S. faced all over the world. With respect to the asymmetric battles in Iraq and Afghanistan, Scales (2006, 37-38) called for a second learning revolution. This revolution required new learning and training systems that could prepare intelligence officials for modern warfare. Scales (2006, 38) argues "A second learning revolution is needed and is possible because of advances in learning science."

The American Educational Research Association – Special Interest Group (AERA SIG 2009) describes learning science as the study of "teaching and learning as they occur in school, online, in the workplace, at home, and in the community." It also includes the design of environments that foster "learning and development more effectively" (AERA SIG website November 25, 2009). Closely related to these aspects is the concept of learning organizations. Learning organizations are where people constantly "expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge 2006, 1). Hwang (2003, 92) also describes a learning organization as "an organization in which its members can acquire, share, create knowledge or apply it in their decision making."

Psarras (2006, 87) further illustrates a learning organization as one that creates values, practices, and procedures where learning and working are synonymous in the organization. Steel and Walters (2009, 10) state, "Our Army must be a learning organization…" where leaders must commend themselves to "…lifelong learning through a balance of educational and operational experiences complemented by self-development." Peterson et al. (2009, 40), concur with this point by stating that leaders must contribute to the development and growth of the Army as a profession by "encouraging and nurturing the learning process." Gerras (2002, 20) further supports these views by stating that,

> *...the best way to accommodate the uncertain, ambiguous environment of the 21st century is to develop leaders and an organization that thrive on innovation while simultaneously preserving those key values that make our Amy great. This can best be accomplished by becoming a learning organization.*

Knowledge Management

According to Psarras (2006, 87), learning occurs when people share their data, information, and knowledge. Zeleny (2000) sees knowledge as meaningful information acquired by understanding, awareness, and familiarity through study, investigation, observation or experience over the course of time. Psarras (2006, 87) views knowledge "as neither absolute nor universal." Knowledge changes and must be re-constructed based on study and experience where continuous change requires continuous learning and training (Psarras 2006, 87). The continued cycle of learning and training therefore requires the use of knowledge management (KM).

> *In general, one of the most important issues in knowledge management is the organization, distribution and refinement of knowledge. Knowledge can be generated by data mining tools, can be acquired from third parties, or can be refined and refreshed. The collected knowledge can then be organized by indexing the knowledge elements, filtering based on content and establishing linkages and relationships among the elements. Then this knowledge is integrated into a knowledge base and distributed to the decision support applications (Psarras 2006, 88).*

Knowledge management provides methods to produce, distribute, and use knowledge in ways that add value to activities (Clarke 2001, 192). Hwang (2003, 92) describes knowledge

management as involving methods that enable an organization to capture and arrange its knowledge assets. Here, KM is considered an approach to building learning organizations. Chinowsky and Carrilllo (2007, 122) see KM as a precursor to learning organizations where organizations continuously develop and pursue knowledge in order to improve operations. With respect to learning organizations and knowledge management, Army Field Manual (FM) 6-01.1 (2008, 1-5) states:

> *Knowledge management facilitates the transformation of Army forces into knowledge-based organizations. Those organizations integrate best practices—the most effective and efficient method of achieving any objective or task—into operations and training. Within organizations, KM improves knowledge flow, connecting those who need knowledge with subject matter experts. Soldiers and leaders share lessons learned to prepare for both current and future operations.*

Knowledge management is thus considered an integral part of learning organizations. While a distinction between knowledge management and learning organizations exists, it is difficult to say which is more important. Aggestam (2006, 295) supports this view by stating, "It is like the chicken and the egg. It is impossible to answer the question which came first, and they are both dependent on one another for success." According to Aggestam (2006, 295), organizations that want to become a learning organization must pay attention to the different properties and goals involved in both.

The operational tempo of the War on Terrorism has forced the Army to take an in-depth look at how doctrine is collected, analyzed, and disseminated (Degen 2008, 102). "The Army is a learning organization. Its doctrine cannot afford to be static. The Army must continuously revise its doctrine based on history, evolving theory, experimentation, and an ever-changing security environment" (Degen 2008, 102). The U.S. Army Training Doctrine Command (TRADOC) hence faces a major KM challenge. TRADOC must ensure that doctrine is relevant and responsive to the needs of the warfighter, and that it provides operational forces with dynamic

processes that provide the knowledge needed to overcome an adaptive enemy (Degen 2008, 107-110).

Army Knowledge Management

In response to the above-mentioned challenges, the U.S. Army has restructured its KM system by publishing U.S. Army Field Manual 6-01.1 (2008). "Knowledge management doctrine has been developed to increase Army advantages in conducting operations. It does this by providing systematic and explicit management of the Army's organizational knowledge and its soldiers' individual knowledge" (FM 6-01.1 2008, iv). The manual outlines several KM purposes, principles, and components.

Knowledge Management Purposes

Effective KM provides commanders with relevant information to make educated and timely decisions (FM 6-01.1 2008, 1-2), and enables collaboration by linking soldiers and organizations. Knowledge management enhances adaptation and reduces ambiguity during dynamic operations (FM 6-01.1 2008, 1-2). It also provides the commander a broad range of knowledge that extends beyond pure military matters. "Knowledge management narrows the gap between relevant information commanders require and that which they have" (FM 6-01.1 2008, 1-2). The following are specific knowledge purposes outlined in chapter 1 of FM 6-01.1 (1-3):

- ***Facilitating*** *(situational understanding, common operational picture, decision-making, transfer and availability of expertise and experience)*
- ***Enhancing organizational learning during operations***
- ***Enhancing collaboration among personnel at different places***
- ***Speeding knowledge transfer between units and individuals***
- ***Providing reach-back capability to Army schools, centers of excellence, and other resources***
- ***Incorporating simulations and experiential learning into training***
- ***Helping leaders and Soldiers become more agile and adaptive during operations***
- ***Influencing doctrine development***

Knowledge Management Principles

FM 6-01.1 (2008, 1-5, 6) also outlines seven principles that represent the most important factors affecting KM. Each principle is considered in the KM process; however, applications differ depending on the situation.

- ***Exploit tacit knowledge***. *Information captured in digital form, on paper, and in pictures generally tells "what" and "why," but not "how." KM facilitates the transfer of the "how" in the form of tacit knowledge. Tacit knowledge resides in individuals. It includes experience and expertise gained from operations and training, learned nuances and subtleties, and work-arounds. Mental agility, effective responses to crises, and the ability to adapt to change are also forms of tacit knowledge. This knowledge form is the domain of individuals, not technology (FM 6-01.1 2008, 1-5).*
- ***Treat knowledge management as a social and interpersonal activity***. *Technology enables social interaction by providing access to people, storage, and online knowledge transfer. However, KM does not require technology. Learning, teaching, coaching, and mentoring occur just as easily, and often more effectively, in face-to-face exchanges (FM 6-01.1 2008, 1-5).*
- ***Focus on sharing knowledge***. *Knowledge shared is power. The concept of hoarding knowledge to make oneself indispensable benefits no one. Improved organizational effectiveness, operational processes, and decision making are what give knowledge its value (FM 6-01.1 2008, 1-6).*
- ***Integrate knowledge***. *KM transcends hierarchy and boundaries. By enabling knowledge integration and improving collaboration, KM breaks down stovepipes and enhances situational understanding. KM employs standard processes and best practices focused on organizational effectiveness and improved decision making (FM 6-01.1 2008, 1-6).*
- ***Connect people with expertise***. *Knowledge creation depends on knowledge transfer from those with expertise. KM focuses on transferring tacit knowledge between individuals, teams, and units through collaboration. It makes stored explicit knowledge more easily and readily available to more people and organizations. It contributes to integrating lessons learned during operations by organizations in all ARFORGEN (Army Force Generation) phases (FM 6-01.1 2008, 1-6).*
- ***Foster learning organizations.*** *KM contributes to developing learning organizations by integrating informal learning, organizational learning strategies, and KM capabilities. Much learning comes from individuals' initiative in self-development and study. Thus, fostering learning begins with promoting initiative and innovation. It also involves encouraging knowledge transfer during interaction and collaboration. Fostering learning produces organizations and Soldiers able to learn faster than enemies and adversaries do (FM 6-01.1 2008, 1-6).*
- ***Promote trust and mutual understanding.*** *One of the principles of mission command is encouraging trust and mutual understanding. Successful KM depends on willingness to share knowledge so that others can benefit. This sharing contributes to building an environment of trust and mutual understanding. In this way, effective KM aids mission command (FM 6-01.1 2008, 1-6).*

Other works by Davenport (1997, 187-191) and Allee (1997, 71-74), also outline several KM principles. Closely related to the "exploit[ation] of tacit knowledge" is Davenport's (1997, 188) second principle, "Effective management of knowledge requires hybrid solutions and technologies." This principle describes humans as the recommended tools for the interpretation and synthesis of information (Davenport 1997, 188). With respect to "connect[ing] people with

expertise," Allee's (1997, 71) third principle, "Knowledge seeks community," describes knowledge and life as "wanting to happen," where both "want to happen as a community."

Knowledge Management Components

According to FM 6-01.1 (2008, 1-6), "Effective KM supports both the human and the technical components of a command-and-control system." Three components of effective KM include people, processes, and technology. The first component involves individuals inside and outside an organization. These individuals create, organize, apply, act on, and transfer knowledge (FM 6-01.1 2008, 1-6). The second includes the methods of creating, organizing, applying, and transferring knowledge. The third involves information systems that are used to put knowledge into organized frameworks (FM 6-01.1 2008, 1-6).

Knowledge Types

Several works[7] discuss two types of managed knowledge: explicit and tacit. Psarras (2006, 86) describes explicit knowledge as knowledge in textbooks, mathematical calculations, or technical knowledge. According to Connell et al. (2003, 141), explicit knowledge consists of concepts, information, and insights that are specifiable and can be formalized in policies and procedures. Examples of explicit knowledge in the Army include doctrine, orders, and standing operating procedures. As stated in FM 6-01.1 (2008, 1-2):

> *Explicit knowledge consists of written or otherwise documented knowledge in media that can be organized or stored, whether digital (such as computer files) or non-digital (such as paper). It is definite, openly stated, and often objective. Explicit knowledge lends itself to rules, limits, and precise meanings. It is easily collected, stored, and disseminated using information systems. Examples of explicit knowledge include field manuals, unit standing operating procedures, operation orders, and technical specifications or capabilities of equipment. During operations, this knowledge is created and applied to support understanding and decision-making.*

According to Johnson and Lundvall (2001, 10), explicit knowledge should be developed in concert with tacit knowledge because their contents complement each other. Connell et al.

[7]See Connell et al. (2003); FM 6-01.1 (2008); Luen and Al-Hawamdeh (2001); Psarras (2006)

(2003, 141) define tacit knowledge as insights and skills embedded in organizations or individuals. Tacit knowledge is often derived from every-day experiences. These experiences help individuals solve real-world practical problems (Hedlund et al. 2003, 117). Hedlund et al.(2002, 11-12) also state that tacit knowledge has direct relevance to an individual's goals, is context-specific, and that individuals must select which lessons to take from experiences. Examples of tacit knowledge in the Army are rifle marksmanship and rappelling skills. As stated in FM 6-01.1 (2008, 1-2):

> *Tacit knowledge consists of comprehension gained through study, experience, practice, and human interaction. It resides in an individual's mind. All individuals have a unique, personal store of knowledge. They gain it from experiences, training, and informal networks of friends and professional acquaintances. However, individuals can also seek others' tacit knowledge to solve a problem or explore an opportunity. Intuition as discussed in FM 6-0 is an example of tacit knowledge. So is being able to understand the critical factors on which to focus in a complex situation. During operations, leaders are concerned with creating knowledge needed to accomplish the immediate mission. They also engage Soldiers' tacit knowledge to increase the unit's understanding. Knowledge from both sources helps leaders make better decisions and conduct more effective operations.*

Classifying knowledge as either explicit or tacit is a useful but of limited value. The way knowledge is defined, and the distinctions that are drawn between tacit and explicit knowledge, are not always helpful when designing systems to facilitate knowledge transfer within organizations (Connell et al. 2003, 140). Knowledge thus requires an in-depth categorization system that incorporates more than just tacit and explicit knowledge. The following outlines two knowledge taxonomies that provide an expanded framework for categorizing knowledge.

The first taxonomy delineates knowledge into four dimensions: explicit, tacit, personal, and common (Tywoniak 2007, 61). The first dimension, explicit, refers to an unfolding of the knowledge process where skills are reflected once performance is achieved. The explicit dimension also involves formalization and codification. Tacit refers to the procedural nature of knowledge; as knowledge is used, further knowledge is generated. Personal describes the total embodiment of knowledge that an individual has. It also consists of the behavioral rules

individuals attain through a reduction of environmental uncertainty. The common dimension refers to the embedded nature of knowledge, where knowledge is generated in an interactive environment (Tywoniak 2007, 61).

The second taxonomy, proposed by De Jong and Ferguson-Hessler (1996, 106-107), categorizes knowledge as situational, conceptual, procedural, and strategic in regard to problem solving. Situational knowledge is knowledge about the circumstances in a problem. Knowledge of the problem provides an individual the opportunity to explore the relevant features of a problem statement and, if necessary, to supply additional information about the problem. Conceptual knowledge is knowledge about facts, concepts, and principles as they apply to a problem. Conceptual knowledge also functions as additional information used to solve the problem. Procedural knowledge is knowledge that helps the problem solver make transitions from one problem circumstance to another. Strategic knowledge helps people organize their problem-solving procedures and develop sequential courses of action to address a problem.

The previously mentioned taxonomies improve the knowledge-classification process. However, the multi-faceted knowledge involved in training U.S. Army intelligence officers requires an even more comprehensive typology. Lundvall's knowledge taxonomy accomplishes this by integrating several essential knowledge components into one categorical structure. However, before moving to Lundvall's knowledge taxonomy, it is important to take a look at how people think. One method used to do this is through Bloom's Taxonomy.

Bloom's Taxonomy

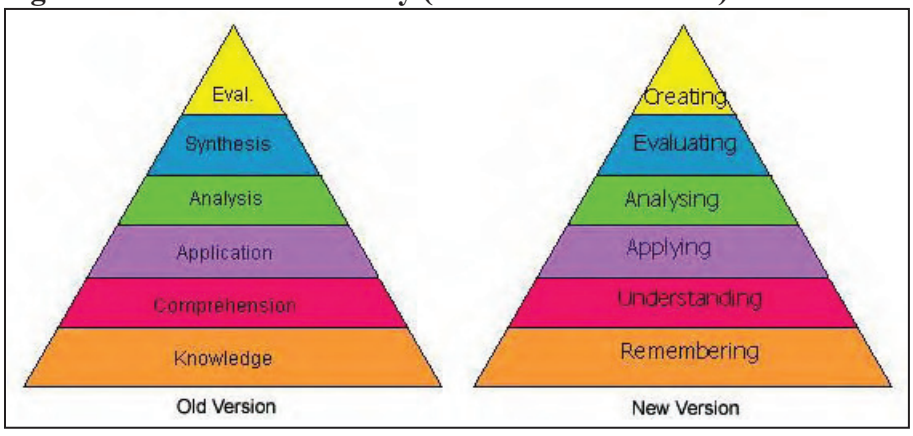
Initially developed in 1956, "Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity" (Forehand 2005, 2). These six levels are knowledge, comprehension, application, analysis, synthesis, and evaluation. In an effort to

add a 21st-century reference, Lorin Anderson modified the taxonomy to include remembering, understanding, applying, analyzing, evaluating, and creating (Forehand 2005, 3). Figure 2.1 provides a graphic illustration of the original and updated versions.

Understanding the way people think is important for two reasons. First, it sets up a "systematic classification of the processes of thinking and learning" (Forehand 2005, 5). Second, the classification system provides instructors the ability to gauge student abilities. Once students' abilities are measured, the instructor can focus his or her training efforts.

A way to develop and improve training methodologies is to identify how knowledge is obtained. This can be done through Lundvall's knowledge taxonomy. Bloom's taxonomy is used for understanding thinking, Lundvall's taxonomy takes this a step further by providing students knowledge in support of decision making because "the most important purpose of intelligence is to influence decision making" (FM 2-0 2008, 1-2).

Figure 2.1 Bloom's Taxonomy (old and new versions)



Lundvall's Knowledge Taxonomy

According to Snider (2003, 6), expert knowledge of the profession is the base of an officer's expertise and profession practiced. As a result, Snider (2003, 6) posits four broad clusters of expert knowledge: technical, ethical, developmental, and political-social. The third cluster refers to human development such as education and training. With respect to intelligence

officers, human development can be accomplished by identifying the types of knowledge involved in intelligence training. One method of accomplishing this is through the use of Lundvall's knowledge taxonomy. The taxonomy groups relevant knowledge into four categories: know-what, know-how, know-who, and know-why (Lundvall and Johnson 1994, 27-31). The first category, know-what, refers to knowledge about facts. Know-how, the second category, refers to skills and abilities. Know-who and know-why refer to social relations and principles / laws respectively (Lundvall and Johnson 1994, 27-31).

WH1:[8] Intelligence Training Incorporates Know-What Knowledge

According to Lundvall (2006b, 9), know-what refers to knowledge about facts such as the number of people who live in a specific country or the ingredients in a recipe. Under this category, knowledge is closely related to information that can be broken down and communicated as data (Lundvall 2006b, 9). Lundvall (2006a, 6) also states that know-what is a kind of knowledge that can be brought into databases and searched for in a simple way. Know-what can be obtained through reading books, attending lectures, and accessing data bases (Lundvall 1996, 6). Know-what is also obtained through learning-by-using and by interactions between knowledge producers and users (Garud 1997, 87).

Operational Environment (WH1a)

With regard to officer intelligence training, know-what refers to the facts associated with a certain training event or operation (Schmidtchen 2006, 152). Examples of this are facts associated with a country study (population, language, religion) and facts or results of specific battle or exercise (number of enemy tanks, after action reviews[9]). Many of these facts are used to

[8]"WH" denotes working hypothesis, each of which highlights an intelligence-related topic found in the literature.
[9]The after action review (AAR) is a method of providing feedback to organizations by involving participants in the training diagnostic process in order to increase and reinforce learning (FM 7-0 2008, 4-39).

describe the particular characteristics of an operational environment[10] (OE). According to FM 3-0 (2008, 1-1), the operational environment includes "all enemy, adversary, friendly, and neutral systems across the spectrum of conflict; they also include an understanding of the physical environment, the state of governance, technology, local resources, and the culture of the local population."

In order to plan and execute military operations, a unit must gather intelligence about the enemy and the area of operations[11] (FM 2-0 2008, 1-1). The information used to generate intelligence on the area of operations comes from the operational environment. To categorize and understand the facts involved in an operational environment the Army uses two sets of variables, operational and mission variables.

> *The operational environment for each campaign or major operation is different, and it evolves as each campaign or operation progresses. Army forces use operational variables to understand and analyze the broad environment in which they are conducting operations. They use mission variables to focus analysis on specific elements of the environment that apply to their mission (FM 3-0 2008, 1-5).*

Operational and mission variables are composed of facts.[12] Collectively, these facts provide information and intelligence on an area of operations. Effective intelligence training therefore includes know-what knowledge elements by training on the operational environment. This study thus expects to find the following:

WH1a: Training is conducted on the operational environment.

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[10]FM 2-0 defines the operational environment as a composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decision of the commander. The operational environment encompasses physical areas and factors of the air, land, maritime, and space domains. It also includes the information environment and enemy, adversary, friendly, and neutral systems.

[11]Areas of operations are defined by the joint force commander for land and naval forces. Areas of operations do not typically encompass the entire operational area of the joint force commander, but should be large enough for component commanders to accomplish their missions and protect their forces (FM 1-02 2004, 1-12).

[12]Many operational and mission variables are based on factual information (number of tanks, religion). However, some variables are only educated estimates. These estimates are used as a starting point until the actual fact is obtained through analysis.

Operational Variables (WH1b)

Operational variables take into account the political, military, economic, social, and infrastructure realities, as well as information, physical environment, and time (PMESII-PT) in relation to a particular operational environment (FM 3-0 2008, 1-5).[13] According to a U.S. Army Training and Doctrine Command (TRADOC) G2[14] white paper (2009, 60), leaders must understand the OE in order to "attain some level of parity when opposing someone in their indigenous environment." Leaders learn to understand the OE when they are educated on the identification of operational variables. This study thus expects to find the following:

> **WH1b:** Training is conducted on the identification and understanding of operational variables.

Mission Variables (WH1c)

"Army leaders use the mission variables to synthesize operational variables and tactical-level information with local knowledge about conditions relevant to their mission" (FM 2-0 2008, 1-20). Mission variables include mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC) (FM 3-0 2008, 1-9).[15] Training on the recognition and understanding of METT-TC is a vital process in the preparation for conventional and unconventional engagements. With respect to current counterinsurgency operations, FM 3-24.2 (2009, 1-6) states that:

> *While analysis, in terms of the operational variables, improves understanding of the operational environment, it does not lend itself directly to mission accomplishment. For operations at the tactical level, the Army uses the mission variables of METT-TC (mission, enemy, terrain and weather, troops available, time available and civil considerations) to help a unit understand its mission within the context of its specific OE.*

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[13]See FM 3-0 (2008, 1-5) for a description of each operational variable.
[14]Office of the TRADOC General Staff Intelligence Official.
[15]See FM 3-0 (2008, 1-9) for a description of each mission variable.

Understanding a unit's mission and its respective operational environment requires that leaders are educated on the identification of mission variables. This study thus expects to find the following:

> **WH1c:** Training is conducted on the identification and understanding of mission variables.

WH2: Intelligence Training Incorporates Know-How Knowledge

Know-how refers to the ability to do something (Lundvall 2006b, 9). It is related to the skills of professionals and production workers, and is often developed individually through experience and apprenticeship (Lundvall 2006b, 9-11). "Know-how is basically tacit knowledge which cannot be easily transmitted. It will typically develop into its highest forms only after years of experience in everyday practice – through learning-by-doing and through interacting with other experts active in the same field" (Lundvall 1996, 6).

Intelligence Warfighting Function (WH2a)

According to Schmidtchen (2006, 151), know-how refers to the practice of techniques where "training is the process for learning how." Officer intelligence training incorporates know-how by conducting practical exercises in intelligence analysis. Many intelligence analysis tasks can be found in the intelligence warfighting function.[16] According to FM 3-0 (2008, 4-3), "A warfighting function is a group of tasks and systems (people, organizations, information and processes) united by a common purpose that commanders use to accomplish missions and training objectives." FM 3-0 (2008, 4-4) further describes the intelligence warfighting function as "the related tasks and systems that facilitate understanding of the operational environment, enemy, terrain, and civil considerations."

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[16]See FM 3-0 (2008, 4-1) for the definition and description of the six warfighting functions.

The intelligence warfighting function outlines four tasks that help commanders accomplish their respective mission or training objectives: support to force generation; support to situational understanding; perform intelligence, surveillance, and reconnaissance (ISR); support to targeting and information superiority (FM 7-15 2009, 2-1). These tasks comprise several subordinate tasks that require specific skills and techniques. Learning to apply these techniques relies heavily on preparing Army leaders at TRADOC institutions (TRADOC OE white paper 2009, 60). Effective intelligence training thus includes know-how knowledge elements through training to meet objectives / tasks under the intelligence warfighting function. This study therefore expects to find the following:

> **WH2a:** Training is conducted on the tasks under the intelligence warfighting function.

Support to Force Generation (WH2b)

Support to force generation[17] is the first task under the intelligence warfighting function. Its subordinate tasks include: provide intelligence readiness, establish intelligence architecture, provide intelligence overwatch, generate knowledge, and tailor the intelligence force (FM 7-15 2009, 2-2). Intelligence readiness operations support current operations and related training activities by developing knowledge databases. Establishing an intelligence architecture includes technical issues such as software, communications security, and database research skills. Intelligence overwatch corresponds to the establishment of an intelligence network accessible to multiple units. The "generate knowledge" task provides basic knowledge concerning threats, civil considerations, terrain, and weather. Tailoring the intelligence force uses mission analysis to allocate intelligence resources in support of the commander's guidance, intent, and mission objectives.

[17]See FM 7-15 (2009, 2-2) for a detailed description of intelligence support to force generation.

The previously mentioned tasks provide an intelligence officer with a basic skill set for conducting analysis. All of the tasks are interconnected and require special skills and training. For example, in order to conduct database research, you need: a database to search; access to a network; and the commander's guidance on what to search for. Knowing how to conduct these tasks and how they are interrelated helps an analyst conduct his or her daily activities. Effective intelligence training therefore includes know-how knowledge through the support to force generation task. This study thus expects to find the following:

WH2b: Training is conducted on support to force generation.

Support to Situational Understanding (WH2c)

In addition to force generation, intelligence know-how incorporates situational understanding. Training that supports situational understanding[18] involves: performing intelligence preparation of the battlefield; performing situational development; providing intelligence support to protection; providing tactical intelligence over watch; conducting police intelligence operations; and providing intelligence support to civil affairs activities (FM 7-15 2009, 2-15). Intelligence preparation of the battlefield (IPB) provides the commander with information on the operational environment, the battlefield effects, the threat, and on possible threat courses of action. Situation development is the process of analyzing information to produce intelligence before and during operations. Support to protection involves the measures a commander takes to protect his or her organization. Tactical intelligence overwatch involves creating and maintaining an intelligence network that provides support to maneuver units. Police intelligence operations provide support to military police activities, such as law enforcement. Providing intelligence support to civil affairs activities facilitates the collection of information on

[18]See FM 7-15 (2009, 2-15) for a detailed description of intelligence support to situational understanding.

areas, structures, capabilities, organizations, people, and events (ASCOPE) in the area of operations (AO).

The tasks that support situational understanding also serve as a know-how skill set for intelligence officers. IPB, for example, allows analysts to take raw data on a country, process it, and then produce viable intelligence products that support situation development. Then, facilitated through an intelligence network, the updated situation and its associated intelligence products can be used for protection, police operations, and civil affairs activities. Another example of intelligence know-how involves training on police intelligence operations. If analysts are located in a non-combat zone, their support then turns to maintaining social order. Analysts can coordinate with local and military police in order to develop intelligence products on crime or civil unrest. With these examples in mind, one can then argue that effective intelligence training includes know-how knowledge through the support to the situational understanding task. This study thus expects to find the following:

> **WH2c:** Training is conducted on support to situational understanding.

Perform Intelligence, Surveillance, and Reconnaissance (WH2d)

Once an intelligence baseline is developed through force generation and situational development, it must be updated or augmented through intelligence, surveillance, and reconnaissance (ISR).[19] The performance of intelligence, surveillance, and reconnaissance is the third intelligence know-how task. Performing this task involves: intelligence, surveillance, and reconnaissance synchronization and integration; conducting tactical reconnaissance; conducting surveillance; and conducting related missions and operations (FM 7-15 2009, 2-26).

The integration aspect of ISR allocates and controls a unit's intelligence-collection assets.

[19]See FM 7-15 (2009, 2-26) for a detailed description of intelligence, surveillance, and reconnaissance.

The intelligence, surveillance, and reconnaissance synchronization process provides analysts the ability to fill information gaps or information requirements. A common practice in the intelligence section of a brigade combat team is to assign young intelligence officers as collection managers.[20] Knowing how to manage collection assets along with competing information requirements thus becomes an essential skill for any intelligence officer.

Tactical reconnaissance and surveillance obtains, by observation or other detection methods, information on enemy activities. It also collects information on the characteristics of an area of operations, country, or city. Other intelligence-collection activities, such as mission and debriefing programs and support to sensitive site exploitation, provide intelligence outside of normal ISR avenues. Knowing how these missions are conducted will facilitate the planning of reconnaissance missions.

The integration of intelligence, surveillance, and reconnaissance (ISR) can be a daunting task for anyone, especially in urban environments. According to Schrick (2008, 74), "the amount of commander's critical information requirements (CCIRs) greatly increases during urban operations due to considerations and effects of the population." In addition, Sammons (2008, 76) asserts, "The Army has failed to provide the qualified leadership to direct synchronized and integrated ISR" in support of the brigade combat team (BCT). "What the BCT lacks is authority vested in truly qualified officers…" who are educated and experienced in ISR (Sammons 2008, 76). To overcome the challenges of qualified leaders and urban warfare, Major General John M. Custer considers ISR as one of his top four priorities in the U.S. Army Intelligence Center (USAIC) training guidance for fiscal year 2010 (USAIC FY10 Training Guidance 2009, 2). There is a push for establishing ISR as core competency and for setting aside the time and effort

[20]Personal experience of MAJ Ruiz.

needed to train on this "crucial skill set" (USAIC FY10 Training Guidance 2009, 2). With these factors in mind, one can expect effective intelligence training to include know-how knowledge elements through the performance of ISR tasks. This study thus expects to find the following:

> **WH2d:** Training is conducted on intelligence, surveillance, and reconnaissance.

Targeting and Information Superiority (WH2e)

The establishment of a knowledge baseline coupled with the development of an intelligence, surveillance, and reconnaissance plan sets the conditions for targeting support. Training on support to targeting and information superiority[21] is the fourth intelligence know-how task. Knowing-how to support targeting and information operations provides intelligence officers with a powerful analytical skill. This ability allows officers to conduct sophisticated analysis by determining second- and third-order targeting effects.

Performing support to targeting and information superiority includes providing intelligence support to targeting, intelligence support to Army information tasks, and intelligence support to combat assessment. Support to targeting provides information and intelligence to staff officials for the purposes of coordinating direct and indirect lethal and nonlethal fires.[22] Intelligence support to Army information tasks provides the commander information and intelligence support through nonlethal actions. Intelligence support to combat assessment assists the commander in determining whether target actions have been met or whether re-attack is necessary.

The visibility and importance of information operations within national policy has

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[21]See FM 7-15 (2009, 2-45) for a detailed description of support to targeting and information superiority.
[22]FM 1-02 (2004, 1-1330 defines nonlethal fires as any fires that do not directly seek the physical destruction of the intended target and are designed to impair, disrupt, or delay the performance of enemy operational forces, functions, and facilities. Psychological operations, electronic warfare (jamming), and other command and control countermeasures are all nonlethal fire options.

increased in recent years (Richter 2009, 103). "If current trends persist, operations focused solely on destroying an enemy, objective, or capability will occur with decreasing frequency, while missions to enable a foreign security force or empower a local civil administration will become more frequent" (Richter 2009, 112). The shifting nature of information operations is also evident in the targeting process. According to Caraccilo and Rohling (2004, 12), traditional targeting procedures focus on delaying, disrupting, destroying, or defeating enemy forces; post-conflict targeting involves the opposite. "During post-conflict operations, the 2-503d's goal was to identify weaknesses and then leverage its forces not to defeat but to strengthen local capabilities" (Caraccilo and Rohling 2004, 12).[23] With respect to unconventional environments, Hull (2009, 24) shares a similar view in the targeting of key leaders; "targets can shift from lethal to nonlethal and vice versa." The dynamic use of targeting and information operations requires specific skills and training. Effective intelligence training thus includes know-how knowledge elements by incorporating targeting and information operations training. This study therefore expects to find the following:

> **WH2e:** Training is conducted on support to targeting and information operations superiority.

WH3: Intelligence Training Incorporates Know-Who Knowledge

"Know-who involves information about who knows what and who knows what to do" (Lundvall 2006b, 9-11). It also involves social interactions, relationships, and social networks. The combination of increasing complexity and swift change with regard to knowledge makes it important to know who knows what (Lundvall 2006a, 7). Know-who is socially embedded knowledge that cannot easily be transferred. It is learned and transferred through social practice in specialized fields (Lundvall 1996, 6).

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[23] 2d Battalion, 503d Infantry Regiment, 173d Airborne Brigade.

Communities of Practice (WH3a)

In relation to military training, Schmidtchen (2006, 153) states that a key skill for all leaders is the ability to find individuals "of suitable expertise regardless of their position in hierarchy or their geographic location." Forming relationships facilitates collaboration and sets the stage for further learning and training. One method of doing this is through the use of "communities of practice" (COP). Communities of practice are self-selected groups that help each other by sharing professional knowledge, stories, thoughts, and tools (Kilner 2002, 21). Kilner (2002, 21) also states that, "Communities of practice have the potential to transform the way the Army does business, helping it to become a knowledge-based learning organization that is even more able to educate and train its leaders, develop its doctrine, and inspire commitment from its people." Kakabadse et al. (2003, 84) state that communities of practice can retain knowledge in "…living ways rather than in the form of a database or manual." To capitalize on these strengths, the USAIC FY10 Training Guidance (2009, 12) emphasizes the use of the Intelligence Knowledge Network (IKN).[24] IKN, in this respect, acts as a transfer medium that allows individuals to draw on each other's abilities. Effective intelligence training thus includes know-who knowledge elements through training on communities of practice. This study therefore expects to find the following:

> **WH3a:** Intelligence training includes training on communities of practice.

Forming Relationships (WH3b)

The use of collaboration is an effective tool in the formation of communities of practice. According to Jewell (2003, 51), the collaborative sharing of information provides commanders the knowledge they need to achieve and maintain information superiority. With respect to current

[24]IKN is an online knowledge management tool that enables Intelligence Soldiers all over the world to communicate, collaborate, and investigate. https://icon.army.mil (access is restricted).

operations, Warner et al. (2008, ii) state that "military teams must be able to collaborate effectively in asynchronous situations." Effective intelligence training therefore incorporates collaboration through the formation of relationships. This study thus expects to find the following:

> **WH3b:** Intelligence training includes training on forming relationships.

Drawing on Others' Abilities (WH3c)

The forming of relationships allows individuals to draw on each other's abilities. This action can facilitate learning and improve one's own knowledge and skills. Learning, however, is not limited to anyone or any organization. According to Boud and Middleton (2003, 198), "there is a diverse range of people that we learn from at work, very few of whom are recognized by the employing organization as people with a role in promoting learning." With these aspects in mind, one can expect effective intelligence training to incorporate training on learning from others. This study therefore expects to find the following:

> **WH3c:** Intelligence training includes training on drawing from others' abilities.

WH4: Intelligence Training Incorporates Know-Why Knowledge

Know-why refers to knowledge about "principles and laws of motion in nature" (Lundvall 2006b, 9-11). It allows for a reduction of errors through the evaluation of causation and explanation (Lundvall 2006a, 6-7). Know-why is obtained through reading books, attending lectures, and accessing data bases (Lundvall 1996, 6). According to Garud (1997, 86), know-why also involves learning-by-studying where experimentation is used to understand the principles and theories of a system.

Causal Relationships (WH4a)

According to Schmidtchen (2006, 155) know-why knowledge corresponds to cause-and-effect situations, or causal relationships. With regard to intelligence training, officers must be able to determine causal relationships in order to anticipate future enemy actions.

There are two basic types of causal relationships: direct and indirect (Spohn 2009, 45). Direct causal relationships are linear in nature. For example, if a rocket is fired into a building, the building is destroyed. The cause is the rocket's impact and explosion and the effect is the destruction of the building. Indirect causal relationships, on the other hand, have second- and third-order effects. Miller (2006, 36) outlines five elements of a situation involving second-and third-order effects:

- *Effects have causes*
- *Effects can, and usually do, become causes of another effect(s)*
- *There can be a large number of cause-effect "chains" created based on a single causal event*
- *Effects that were intentionally caused to produce a specific outcome can spawn an effect that was unintended and/or unpredicted*
- *These unintended or unpredicted effects spawned from the original cause can be unwelcome if these are counter to the objectives*

An example of a second-order effect is the civil unrest resulting from deaths of non-combatants. An example of a third-order effect is the creation of jobs because of the destroyed building. In this case civil unrest caused military leaders to meet with local leaders. In an effort to quell the situation, military leaders promised to pay individuals to clean up the mess and to create a local job pool. With these examples in mind, one can realize the importance of intelligence know-why.

One methodology that incorporates the use of indirect causal relationships is effects-based operations (EBO).The *Commander's Handbook for an Effects-Based Approach to Joint Operations* (2006, I-1) provides the following description of EBO:

> *An effects-based approach to joint operations focuses on improving our ability to affect an adversary's behavior and/or capabilities through the integrated application of select instruments of national power. This approach connects strategic and operational objectives with operational and tactical tasks by identifying desired and undesired effects within the operational environment.*

To expand EBO's definition, Davison (2008, 35) states that "EBO applies the elements of national power against the threat's political, military, economic, social, informational, and infrastructural systems to cause the threat to behave in a pre-determined manner." Wass de Czege (2009, 2) also describes effects-based planning as a logic that assumes "a mechanistic understanding of causal chains." In regard to EBO training, Batschelet (2002, 19) recommends institutionalizing the methodology at the onset of an officer's education and training. "The same must be true for each service. For the Army, the basic officer leadership course is the place to start" (Batschlelet 2002, 19). Collectively, these views support effects based operations' use of causal relationships. Intelligence know-why can be gained by training on this methodology.

Three thought processes can enhance the understanding and application of causal relationships: adaptive thinking, critical thinking, and creative thinking. Leaders who use adaptive thinking are able to adjust to dynamic environments (a necessary skill in asymmetric warfare) by quickly determining the effect of an action. Critical thinking analyzes and improves the thinking behind certain causal relationships. Creative thinking provides innovative ideas for addressing the outcomes of certain events or actions. Collectively, these skills improve intelligence know-why by augmenting the understanding of causal relationships.

Intelligence know-why is gained by training on causal relationships. Once an intelligence officer sees how one event can precipitate another, the officer can then refocus his or her analysis to better support the mission. Two models that can assist mission analysis are direct and indirect causal relationships. These processes are further improved through adaptive, critical, and creative

thinking. Effective intelligence training thus includes know-why knowledge elements through cause-and-effect training. This study therefore expects to find the following:

> **WH4a:** Intelligence training includes training on causal relationships.

Adaptive Thinking (WH4b)

In addition to causal relationships, intelligence know-why incorporates training on adaptive thinking. Raybourn et al. (2009, 3) describe adaptive thinking as a collective of "competencies such as negotiation and consensus building skills, the ability to communicate effectively, analyze ambiguous situations, be self-aware, think innovatively and critically, and exercise creative problem solving skills." Adaptive thinking improves the understanding and application of causal relationships by providing individuals the opportunity to: recognize changes in an operational environment; identify the vital elements of a situation; and make changes according to new criteria (FM 6-22 2006, 10-8). Clarke (2008, 5) considers adaptive thinking as necessary in order "to quickly think through the 2nd and 3rd orders of effects and apply multiple perspectives in considering new approaches to solving problems." Collectively, these views support the use of adaptive thinking when considering know-why intelligence training.

Current asymmetric operations in Afghanistan and Iraq are filled with dynamic situations such as cultural events or rituals. According to FM 3-0 (2008, 1-19), the Army requires "agile and adaptive leaders able to handle the challenges of full spectrum operations." These Army leaders must be "culturally astute" in order "to conduct operations innovatively" (FM 3-0 2008, 1-19). Cultural intelligence, or awareness, involves the ability to interact with multiple cultures, the ability to adjust to different cultural settings, and the ability to suspend judgment until multiple signals can be assessed (Crowne 2008, 392). Training on cultural awareness supports

adaptive thinking by providing leaders a repository of cultural knowledge. Leaders use this knowledge to adapt to different situations in the operational environment.

Intelligence know-why is gained by training on adaptive thinking. Adaptive thinking facilitates the understanding and application of causal relationships. An important aspect of adaptive thinking is the use of cultural awareness. Together, these items support intelligence analysis and planning. Effective intelligence training therefore incorporates know-why knowledge by training on adaptive thinking. This study thus expects to find the following:

> **WH4b:** Intelligence training includes training on adaptive thinking.

Critical Thinking (WH4c)

In addition to adaptive thinking, intelligence know-why includes training on critical thinking. FM 6-22 (2006, 6-1) describes critical thinking as "the key to understanding changing situations, finding causes, arriving at justifiable conclusions, making good judgments, and learning from experience." Allen and Gerras (2009, 78) further describe critical thinking as a process used to evaluate and select information for decision making. To take advantage of these aspects, Major General Custer outlines critical thinking as one of his top four priorities in the USAIC training guidance for fiscal year 2010 (USAIC FY10 Training Guidance 2009, 2). His priority emphasizes the use of problem solving, analysis of competing hypotheses, and knowledge management (USAIC FY10 Training Guidance 2009, 3). These three functions further aid in the understanding and interpretation of causal relationships.

Critical thinking analyzes and improves the thinking behind causal relationships. Intelligence analysts can use critical thinking to assess the reasoning behind enemy decisions or actions. Critical thinking also supports the understanding and application of causal relationships by gathering relevant information, raising vital questions, and coming to well-reasoned

conclusions (The Critical Thinking Community website March 9, 2010). Intelligence know-why is thus improved by training on critical thinking. This study therefore expects to find the following:

WH4c: Intelligence training includes training on critical thinking.

Creative Thinking (WH4d)

In addition to adaptive and critical thinking, intelligence know-why incorporates the use of creative thinking. According to FM 5-0 (2005, 2-4), creative thinking leads to new insights, novel approaches, fresh perspectives, and new ways of understanding things. Allen and Gerras (2009, 78) describe creative thinking as a:

> …cognitive process that supports divergent and convergent aspects of problem solving and decision making. Thinking creatively provides a means to identify that a problem exists and, therefore, helps with problem definition. It also gives rise to the generation of multiple alternatives and a range of options in this divergent component.

Creative thinking supports the understanding of causal relationships by providing innovative ideas to address the effect of a certain action. Intelligence analysts can use these novel ideas to target or adjust intelligence-collection efforts. Creative thinking also supports causal relationships by providing commanders with new approaches to dealing with unfamiliar or complex problems. With these aspects in mind, one can expect effective intelligence training to include training on creative thinking. This study thus anticipates the following:

WH4d: Intelligence training includes training on creative thinking.

Summary of the Conceptual Framework

Working hypotheses were selected as the framework for this project because much of the research is preliminary. In conjunction with Lundvall's knowledge taxonomy, this research uses four working hypotheses to explore the different types of knowledge intelligence training should provide in the development of Army intelligence lieutenants. While initially based on the

taxonomy, the working hypotheses contain intelligence-related topics found in the literature supporting the postulated knowledge categories. Each working hypothesis contains sub-hypotheses that are used to enhance the specificity and meaning of the corresponding major hypothesis. The working hypotheses and supporting literature are summarized in Table 2.1.

Table 2.1 Research Conceptual Framework

Table 2.1 Conceptual Framework	
Working Hypotheses	**Source**
WH1: Intelligence Training Incorporates Know-What Knowledge	
WH1a: Training is conducted on the operational environment.	FM 2-0; FM 3-0; FM 3-24.2; Garud 1997; Lundvall 1994; Lundvall 1996; Lundvall 2002; Lundvall 2006a; Lundvall 2006b; Schmidtchen 2006; TRADOC OE white paper 2009
WH1b: Training is conducted on the identification and understanding of operational variables.	
WH1c: Training is conducted on the identification and understanding of mission variables.	
WH2: Intelligence Training Incorporates Know-How Knowledge	
WH2a: Training is conducted on the tasks under the intelligence warfighting function.	Caraccilo and Rohling 2004; FM 2-0; FM 3-0; FM 7-15; Hull 2009; Jones 2006; Lundvall 1994; Lundvall 1996; Lundvall 2002; Lundvall 2006a; Lundvall 2006b; Pyke 2005; Richter 2009; Sammons 2008; Schmidtchen 2006; Schrick 2008; TRADOC OE white paper 2009; USAIC FY10 Training Guidance
WH2b: Training is conducted on support to force generation.	
WH2c: Training is conducted on support to situational understanding.	
WH2d: Training is conducted on intelligence, surveillance, and reconnaissance.	
WH2e: Training is conducted on support to targeting and information superiority.	
WH3: Intelligence Training Incorporates Know-Who Knowledge	
WH3a: Intelligence training includes training on communities of practice.	Amin and Cohendet 2004; Boud and Middleton 2003; Jewell 2003; Kakabadse et al. 2003; Kilner 2002; Lundvall 1994; Lundvall 1996; Lundvall 2002; Lundvall 2006a; Lundvall 2006b; Schmidtchen 2006; USAIC FY10 Training Guidance; Warner et al. 2008
WH3b: Intelligence training includes training on forming relationships.	
WH3c: Intelligence training includes training on drawing from others' abilities.	
WH4: Intelligence Training Incorporates Know-Why Knowledge	
WH4a: Intelligence training includes training on causal relationships.	Allen and Gerras 2009; Batschlelet 2002; Clarke 2008; Crowne 2008; Davison 2008; Effects-Based Operations 2006; FM 3-0; FM 5-0; FM 6-22; Huba Wass de Czege 2009; Lundvall 1994; Lundvall 1996; Lundvall 2002; Lundvall 2006a; Lundvall 2006b; Miller 2006; Raybourn et al. 2009; Scales 2006; Schmidtchen 2006; Shields 2009; Spohn 2009; The Critical Thinking Community 2010; USAIC FY10 Training Guidance
WH4b: Intelligence training includes training on adaptive thinking.	
WH4c: Intelligence training includes training on critical thinking.	
WH4d: Intelligence training includes training on creative thinking.	

Research indicates that know-what **(WH1)** knowledge refers to facts. With respect to intelligence training, facts about an operation or exercise can be found in the operational environment. Facts in the operational environment include operational and mission variables. Effective intelligence training therefore includes know-what knowledge elements through the identification of operational and mission facts.

Existing research shows that know-how **(WH2)** knowledge involves the practicing of a technique or skill. With regard to intelligence training, many of the techniques needed to conduct intelligence analysis can be found in the intelligence warfighting function. Accordingly, effective intelligence training includes know-how knowledge elements through training in the objectives / tasks under the intelligence warfighting function.

Recent studies indicate that know-who **(WH3)** knowledge is gained through social interactions. A method used to obtain this type of knowledge is through the use of communities of practice. Communities of practice are institutions that facilitate the formation of relationships and set the conditions for individuals to learn from each other. Intelligence analysis can be a complicated process. Communities of practice can ease theses difficulties by providing individuals the opportunity to develop their analytical skills. As a result, effective intelligence training includes know-who knowledge elements by training on social relationships.

Research indicates that know-why **(WH4)** knowledge corresponds to cause-and-effect situations. The application of cause-and-effect methodologies is an in-depth process that requires extensive training in areas such as adaptive, critical, and creative thinking. Scholarly literature indicates that understanding causal relationships is an important aspect of intelligence training. Effective intelligence training therefore includes know-why knowledge elements through training in cause and-effect relationships.

Chapter Summary

This chapter outlines key literature on knowledge management and knowledge taxonomies in relation to officer intelligence training. Shifting security concerns continue to alter the use of military intelligence in the United States. To address these matters, the U.S. Army Intelligence Corps is altering its methods for learning and training. One such technique is the use of knowledge management. Knowledge management and the use of knowledge categories in intelligence training will develop well-rounded intelligence officers who are able to meet today's security concerns. The next chapter discusses the research methodology used in this study. It also describes the operationalization of the conceptual framework and outlines data collection techniques.

Chapter III: Research Methodology

Chapter Purpose

This chapter describes the research methodology used to assess the types of knowledge acquired at the Military Intelligence Basic Officer Leaders Course (MIBOLC). The chapter also discusses the operationalization of the conceptual framework and examines some of the advantages and disadvantages of case-study research.

Research Method

This study uses a case study methodology.[25, 26] A case study is the most appropriate research method because of its in-depth and comprehensive approach at describing a certain phenomenon. According to Yin (2009, 4), "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events…." With respect to intelligence training evaluation, the case-study approach retains this view by observing relevant and realistic training that prepares individuals for combat operations.

The MIBOLC case study uses a single case design. Rationales for using this design are that it characterizes a critical-case and represents a common or everyday situation (Yin 2009, 48). The critical-case aspect is exemplified in the formation and testing of the working hypotheses, where a single-case design can provide evidence that supports or fails to support the propositions. It can also provide a basis for future research. The use of a representative or common case is also important because it can provide insights into the everyday experiences of MIBOLC students. This particular case design also incorporates flexibility as a way to take into account modifications or changes in the study.

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[25]For examples of Texas State University Applied Research Projects that use case-study research see Jason Alexander (2009), Aida Douglas (2006), and Ronald Ellis (2006).
[26]For an example of using case studies to develop theories, see Eisenhardt (1989).

Case study advantages are many: direct observation of the event, interviews of the persons involved in the study (Yin 2009, 11), and the inclusion of a variety of evidence (such as documents and artifacts) (Eisenhardt 1989, 534). In addition, case studies can also complement experiments and possibly provide insight into a certain phenomenon (Yin 2009, 14). Disadvantages or prejudices against using case study research include time, a lack of testing rigor, little scientific generalization, and a failure to establish causal relationships as can be done in controlled experiments (Yin 2009, 14-16).

The unit of analysis used in this study is the training program or MIBOLC. Selecting this particular unit of analysis supports the research purpose by focusing the data collection on the program. While interviews are part of the data collection, they are used to provide insights into the program that do not necessarily represent the views of individuals.

Operationalization of the Conceptual Framework

The working hypotheses and their corresponding sub-hypotheses were operationalized through the use of document analysis, structured interviews, and direct observation. Table 3.1 outlines the operationalization of the conceptual framework. The conceptual framework is divided into four sections, each of which operationalizes each working hypothesis. Each section contains four columns. The first column outlines the working sub-hypotheses that support the main working hypothesis. The second column identifies the collection method used to gather information on the corresponding working sub-hypothesis. The third column describes the evaluated source. The fourth column discusses what type of evidence to search for.

Table 3.1 Operationalization Table

Table 3.1 Operationalization of the Conceptual Framework			
Working Hypotheses	**Collection Method**	**Source**	**Evidence**
WH1: Intelligence Training Incorporates Know-What Knowledge			
WH1a: Training is conducted on the operational environment (OE).	• Documents • Interview	• COE docs and PE Book • MIBLOC Staff (Q: 1-3)	Verification of training on the variables in the OE through documents and interviews
WH1b: Training is conducted on the identification and understanding of operational variables.	• Documents • Interview • Observation	• COE docs and PE Book • MIBLOC Staff (Q: 4-5) • Observe training op variables	Verification of training on operational variables through documents, interviews, and observation
WH1c: Training is conducted on the identification and understanding of mission variables.	• Documents • Interview	• COE docs and PE Book • MIBLOC Staff (Q: 6-7)	Verification of training on mission variables through documents and interviews
WH2: Intelligence Training Incorporates Know-How Knowledge			
WH2a: Training is conducted on the tasks under the intelligence warfighting function.	• Documents • Interview	• COE, IPB, ISR, Targeting info • MIBLOC Staff (Q: 8-9)	Verification of training on the intelligence warfighting through documents and interviews
WH2b: Training is conducted on support to force generation.	• Documents • Interview	• All Module B and C docs • MIBLOC Staff (Q: 10)	Verification of training on support to force generation through documents and interviews
WH2c: Training is conducted on support to situational understanding.	• Documents • Interview • Observation	• IPB docs and PE Book • MIBLOC Staff (Q: 11) • Observe IPB training	Verification of training on support to situational understanding through interviews, documents, and observation
WH2d: Training is conducted on intelligence, surveillance, and reconnaissance.	• Documents • Interview • Observation	• ISR docs and PE Book • MIBLOC Staff (Q: 12) • Observe ISR training	Verification of training on ISR through documents, interviews, and observation
WH2e: Training is conducted on support to targeting and information superiority.	• Documents • Interview	• Targeting Lesson Plan • MIBLOC Staff (Q: 13)	Verification of training on support to targeting and IO superiority through documents and interviews
WH3: Intelligence Training Incorporates Know-Who Knowledge			
WH3a: Intelligence training includes training on communities of practice.	• Documents • Interview • Observation	• Master Schedule (IKN) • MIBLOC Staff (Q: 14-15) • Observe COP use	Verification of training on communities of practice through documents, interviews, and observation
WH3b: Intelligence training includes training on forming relationships.	• Documents • Interview	• All Module B and C docs • MIBLOC Staff (Q: 16)	Verification of training on forming relationships through documents and interviews
WH3c: Intelligence training includes training on drawing from others' abilities.	• Documents • Interview	• All Module B and C docs • MIBLOC Staff (Q: 17)	Verification of training on learning from others through documents and interviews
WH4: Intelligence Training Incorporates Know-Why Knowledge			
WH4a: Intelligence training includes training on causal relationships.	• Documents • Interview	• Red Cell TDG info • MIBLOC Staff (Q: 18)	Verification of training on causal relationships through documents and interviews
WH4b: Intelligence training includes training on adaptive thinking.	• Documents • Interview	• All Module B and C docs • MIBLOC Staff (Q: 19-20)	Verification of training on adaptive thinking through documents and interviews
WH4c: Intelligence training includes training on critical thinking.	• Documents • Interview	• Critical Thinking docs • MIBLOC Staff (Q: 21-22)	Verification of training on critical thinking through documents and interviews
WH4d: Intelligence training includes training on creative thinking.	• Documents • Interview	• All Module B and C docs • MIBLOC Staff (Q: 23-24)	Verification of training on creative thinking through documents and interviews

Document Analysis

Document analysis is the primary collection tool used in this study. Analyzing documents provides two major advantages: understanding their capacity to support the working hypotheses on their own, and their ability to supplement evidence from interviews and observations. Other strengths include their exactness and the ability to review them repeatedly (Yin 2009, 102). Disadvantages involving document analysis include the time required to review products and a need for content familiarity (the investigator should be familiar with some of the document terminology and intelligence-gathering methodologies). Other weaknesses include difficulties in procurement and bias selectivity if the collection is incomplete (Yin 2009, 102).

Document analysis is used to asses all of the working hypotheses (WH) under the conceptual framework. The documents are used to confirm the existence of different knowledge categories (know-what, know-how, know-who, know-why) in the training of junior Army intelligence officers. For example, under WH1a (training is conducted on the operational environment) the existence of know-what knowledge is verified in the MIBOLC student reading booklet by identifying instruction on the operational environment.

Sample: Document Analysis

The document analysis of the MIBOLC was affected by access and biased selectivity. Security concerns limited the number of available documents to only three out of the six training modules. Under the three unclassified modules, certain documents were identified as missing or irrelevant to this study. To overcome these matters, research was conducted under the Intelligence Knowledge Network to find the missing documents and each document was carefully reviewed for its applicability. The documents analyzed in this case study include unit training schedules, training guidelines, course materials, exercise overviews, and practical

exercise booklets. Table 3.2 outlines the documents reviewed in this study. Examples of these documents are provided in appendix A of this study.

Table 3.2 Document List

MIBOLC Document List	Supported Working Hypotheses
MIBOLC Master Schedule	1 (all), 2 (all),3a, 4b, 4c
Module B	
Critical Thinking Lesson Plan	4c
Critical Thinking Concepts and Tools Pamphlet	4c
Critical Thinking Student Guide	4c
Intelligence Support to MDMP Lesson Plan	2a
Intelligence Support to MDMP Slides	2a
MIBOLC COE Student Reading Booklet	1 (all), 2 (all)
COE Slides	1 (all)
IPB Lesson Plan	2c
IPB Slides	2c
DCGS-A Student Reference Guide	2b
ISR Lesson Plan	2d
ISR Slides	2d
Module A Homework PE Book	1(all), 2 (all), 3a, 4a, 4c
Open Source Intelligence Slides	2 (all)
Open Source Intelligence Lesson Plan	2 (all)
Introduction to Search Engines Slides	2b, 3a
Module C	
Irregular Warfare Case Studies	2b
Stability and Civil Support Operations Lesson	1 (all), 2 (all)
Stability and Civil Support Operations Slides	1 (all), 2 (all)
Introduction to Counterinsurgency Operations	2a, 2b
Introduction to Counterinsurgency Operations	2a, 2b
Information Operations Slides	2e
Red Cell Tactical Decision Game (TDG) Lesson	4, 4a, 4b, 4c
Red Cell Tactical Decision Game (TDG) Slides	4, 4a, 4b, 4c
Analytical Methods and Tools Lesson Plan	2b, 4a, 4b
Urban IPB Slides	2c
ISR Synchronization Lesson Plan	2d
ISR Synchronization Slides	2d
Targeting Lesson Plan	2e
Targeting Slides	2e, 4a
Targeting COIN Slides	2e, 4a
Insurgent Tactics, Techniques, Procedures	2a, 2b
Cultural Awareness Lesson Plan	4b
Cultural Awareness Slides	4b
Building Rapport Homework	3b
Building Rapport Practical Exercise	3b
Thomas Kilmann Instrument	3c
Multi-Functional Team Operations Order	3b
Cross Cultural Communication Practical Exercise	3b
Operation Desert Lightning Lesson Plan	1 (all), 2 (all), 4c
Module D	
Operation Unbreakable Lesson Plan	1 (all), 2 (all), 4c
Operation Unbreakable Slides	1 (all), 2 (all), 4c

Structured Interviews

Structured interviews are the second evidence-collection method used in this study. A structured interview, in this case, holds two major advantages. The first is access to individuals who have an in-depth knowledge of the subject. The second is the environment where the information is located. The location is a learning environment where intelligence officials and their corresponding units always welcome ways to improve or evaluate their current practices. Drawbacks to this method include MIBOLC's remote location and the unavailability of training officials due to scheduling conflicts or training exercises. Other interview disadvantages also include response bias, inaccuracies due to poor recall, and reflexivity (Yin 2009, 102).

A structured interview is an appropriate evidence-collection method because of the sensitive nature of intelligence training. Access to intelligence information training is very limited. Once access is gained, the information obtained must be screened by the interviewer and the interviewee in order to prevent a loss of sensitive information. A structured interview also provides the ability to focus on certain topics, such as critical thinking or intelligence preparation of the battlefield (IPB). In addition, the course content under each module determines the appropriate length for each interview.

Questions for the structured interviews were developed from the conceptual framework. The interview questions are used to determine the existence of the four knowledge categories in the MIBOLC, each of which has a corresponding set of working hypotheses that are used to form the interview questions. Questions 1-7 are used to collect evidence on working hypotheses 1, 1a, 1b, and 1c. Questions 8-13 are used to address working hypotheses 2, 2a, 2b, 2c, 2d, and 2e. Questions 14-17 are used to examine working hypotheses 3, 3a, 3b, and 3c. Finally, questions 18-24 are used to asses working hypotheses 4, 4a, 4b, 4c, and 4d.

Sample: Structured Interviews

Each training module is supported by three or four instructors. To avoid disruption and save time, the interviews focused on the senior military and civilian instructors. Four instructors were asked to participate in this study: two from module B, one from module C, and one from module D. A second person was selected under module B because of its importance in providing a base of knowledge for intelligence officers. The specific selection of certain individuals can be defined as purposive nonprobability sampling. This action is described by Babbie (2007, 184) as the selection of individuals based on a "researcher's judgment about which ones will be the most useful." Interviews were conducted at Fort Huachuca, AZ on February 16th and 17th, 2008 and lasted approximately 30 to 45 minutes. Table 3.3 shows the type s of individuals who provided information in support of this study. Interview questions are listed in appendix B of this study.

Table 3.3 Instructor List

Table 3.3 MIBOLC Instructors
Course Manager
Module B Instructor
Module B Instructor
Module C Instructor
Module D Instructor

Direct Observation

The third collection tool used in this study is direct observation, whose strengths include an examination of real-life events and the ability to view them in a context-specific environment (Yin 2009, 102). Weaknesses of this evidence-collection method include time and cost (Yin 2009, 102). Another drawback is the inability of the observer to view more than one training event at a time. Observing intelligence training provides the opportunity to view the interactions between the instructor and the students. Here, the actual understanding of certain subject can be witnessed by the observer.

This methodology connects to the conceptual framework by observing the instruction of certain topics under each of the three modules (B, C, D). For example, under module B, the instruction about intelligence, surveillance, and reconnaissance (ISR) was observed. The observation of ISR training provided evidence in support of WH2c: training is conducted on ISR. This finding further supported the existence of know-how knowledge in the MIBOLC. Collectively, the observations conducted under this study complement the other two sources of evidence.

Sample: Direct Observation

Direct observations of the MIBOLC were affected by location and selectivity. The observations of the MIBOLC were limited to two days out of three and half months of instruction because of its remote location. As a result, the observations were restricted to the specific course content taught during the data-collection days. Observations included training and instruction on the operational environment, ISR, IPB, and communities of practice. Table 3.4 notes the direct observation events.

Table 3.4 Training Events

Table 3.4 MIBOLC Events Observed
Module B (ISR and OE Training)
Module C (IPB Training)
Module D (Communities of practice training)

Human Subjects Protection

This study uses human subjects in its structured interviews. The primary concerns associated with this research include voluntary participation and harm to participants. To address the issues of voluntary participation and harm, a consent form was provided to all participants. Consent to participate included a full disclosure of all information pertaining to this study. The

interviews were conducted in an office and not in a field training environment. Participants were allowed to be excused at anytime if they felt uncomfortable with the interview. This research project was approved for exemption by the Texas State Institutional Review Board on January 27, 2010 (EXP2010U9627). Copies of the consent form and exemption certificate are found in appendices C and D respectively.

Chapter Summary

This chapter discussed the research methodology used in this study. A case study supported by document analysis, structured interviews, and direct observation were used to operationalize the conceptual framework. Advantages and disadvantages for using this particular methodology were also presented. The following chapter presents the results of the MIBOLC case study.

Chapter IV: Results

Chapter Purpose

This research has a dual purpose. First, it explores the different types of knowledge involved in military intelligence training. Second, Lundvall's knowledge taxonomy is used to assess the types of knowledge acquired through intelligence training at the Military Intelligence Basic Officer Leaders Course (MIBOLC). This chapter summarizes the results collected from the MIBOLC case study.

The four knowledge categories used to assess the data collected in the case study are: know-what, know-how, know-who, and know why. The results indicate that know-what and know-how knowledge are incorporated into the MIBOLC in considerable amounts. However, know-who and know-why knowledge are only included in limited amounts. The MIBOLC could be improved if training increased in these two knowledge categories.

Support Criteria

The collected evidence is gauged on a three-level scale of support: strong support, adequate support and limited support.[27] The determination of each level is subjective; however, the author's knowledge and experience on the subject matter help mitigate subjectivity. Evidence assigned a strong support level indicates that a substantial amount of training is conducted on the knowledge component. This indicates that a large portion of the reviewed documents, structured interviews and direct observations mentioned or used training techniques corresponding to a specific knowledge category. A strong level can also be achieved if central documents[28]

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[27]This model is developed from Brian O'Neill's ARP (2008, 55).
[28]A central document is frequently used in training. This makes it a document that is repeatedly evaluated.

such the MIBOLC COE Student Reading Guide (see appendix A), frequently use or refer to concepts under a knowledge category.

An adequate support level indicates that an acceptable amount of training is conducted on the knowledge element. This indicates that a portion of the reviewed documents, structured interviews and direct observations mentioned or used training techniques corresponding to a specific knowledge category. The main difference between strong and adequate is an expectation of findings. Under strong support, expectations are verified frequently. Expectations for adequate support, on the other hand, are not found or are found with less frequency.

Evidence assigned a limited support level indicates that some amount of training is conducted on the knowledge component, but not enough to reach an adequate level. This indicates that a small number of the reviewed documents, structured interviews, and direct observations mentioned or used training techniques corresponding to a specific knowledge category. The main difference between adequate and limited is frequency and depth. If a training technique is mentioned several times but lacks sufficient explanation or depth, then it is assigned a limited level of support.

WH1: Intelligence Training Incorporates Know-What Knowledge

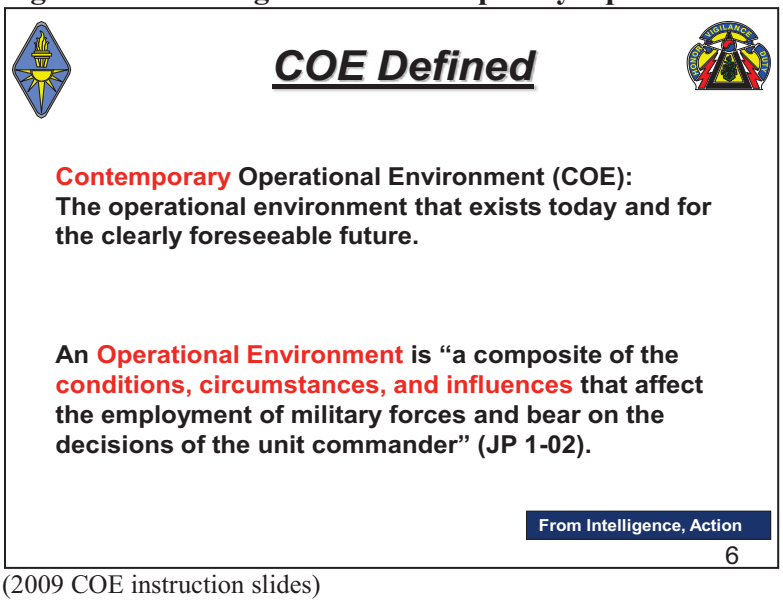
This study utilizes three criteria to assess the existence of know-what knowledge in junior officer intelligence training. Training on the operational environment is the first. The second pertains to training on operational variables. The third relates to training on mission variables. Nine out of the forty-three documents reviewed in this study include references or specific instruction on the operational environment, operational variables, and mission variables (see Table 3.2).

Operational Environment (WH1a)

Document Analysis

Several MIBOLC documents indicate that training is conducted on the operational environment. Two of these sources are the MIBOLC Contemporary Operational Environment (COE) student reading booklet (2009) (see appendix A for excerpt) and the COE instruction slides (2009). Figure 4.1 provides an example of the classroom instruction slides. According to the booklet, "COE sets the conditions for Army training (in a task, conditions, standard construct) and the related training implications are profound. The US Army is currently "conducting operations in what Joint Doctrine describes as a complex, interconnected, and increasingly global operational environment" (COE booklet 2009, 5). These views underline the importance of training on the operational environment as they pertain to intelligence analysis. The documents evaluated in this study provide a considerable amount of evidence that training is conducted on the operational environment. See table 3.2 for a list of documents that include training on the operational environment.

Figure 4.1 Training on the Contemporary Operational Environment



(2009 COE instruction slides)

Structured Interviews

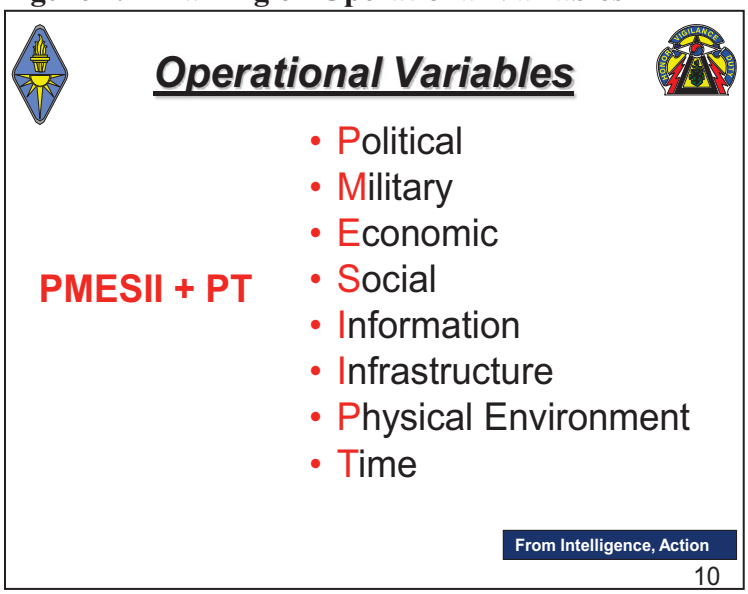
Structured interviews were also used to verify the existence of know-what knowledge. The instructors for modules B and C indicated that training is conducted on the operational environment. The training begins by defining the contemporary operational environment and by educating students on the different types of operational and mission variables. According to the module B and C instructors, students receive classroom lectures then conduct practical exercises in order to learn and understand their applications. These findings provide evidence of training on the operational environment.

Operational Variables (WH1b)

Document Analysis

The previously mentioned MIBOLC documents also offer training on operational variables. Materials such as the COE instruction slides (2009) and Urban IPB slides provided evidence for this type of training. Verification of operational variables instruction is found on the second page of the COE student booklet and in the COE instruction slides (see appendix A for a COE booklet excerpt). Figure 4.2 provides an example of the classroom instruction slides on operational variables training. These findings demonstrate that operational variables are discussed and incorporated into junior officer intelligence training.

Figure 4.2 Training on Operational Variables



(2009 COE instruction slides)

Structured Interviews

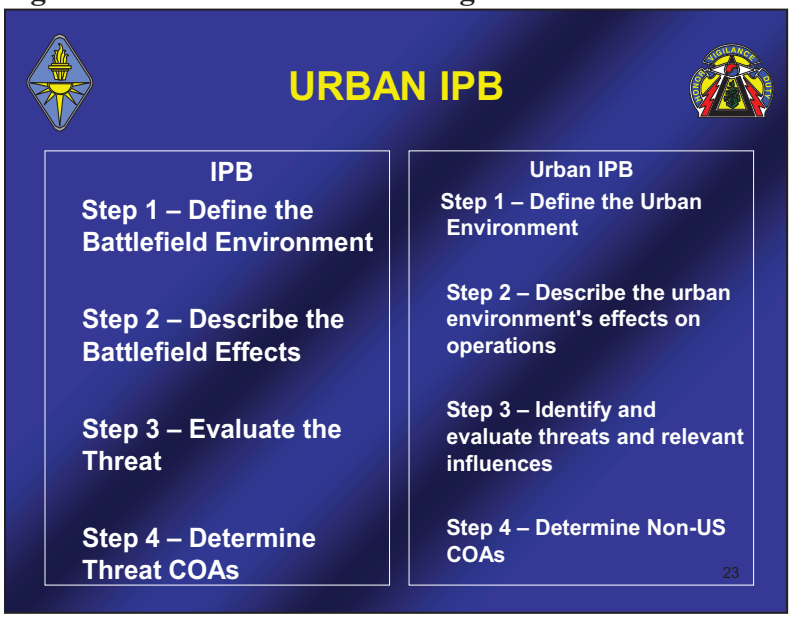
Structured interviews were also used to determine whether know-what knowledge is found in the MIBOLC. Interview responses indicated continued training on operational variables throughout the course. One respondent discussed how the lessons learned in one module are used in the next: "In module B we have students read about it (operational variables) then discuss it in class. In module C we have the students brief the concepts then apply." These findings provide evidence of training on operational variables.

Direct Observation

Direct observation was also used to verify the existence of know-what knowledge at the Military Intelligence Basic Officer Leaders Course. Visual observation of the urban intelligence preparation of the battlefield (IPB) block of instruction identified training on operational variables. Like regular IPB, urban IPB has four steps. Figure 4.3 outlines the two types of IPB. For example, the instructors were observed going over the first step of the urban IPB process. "Step 1: Define the Urban Environment" includes the identification and understanding of

operational variables such as social factors and infrastructure (see figure 4.3). Consistent with step one, demographic (social factors) and sewage facilities (infrastructure) were discussed by the instructor.

Figure 4.3 Difference Between Regular and Urban IPB



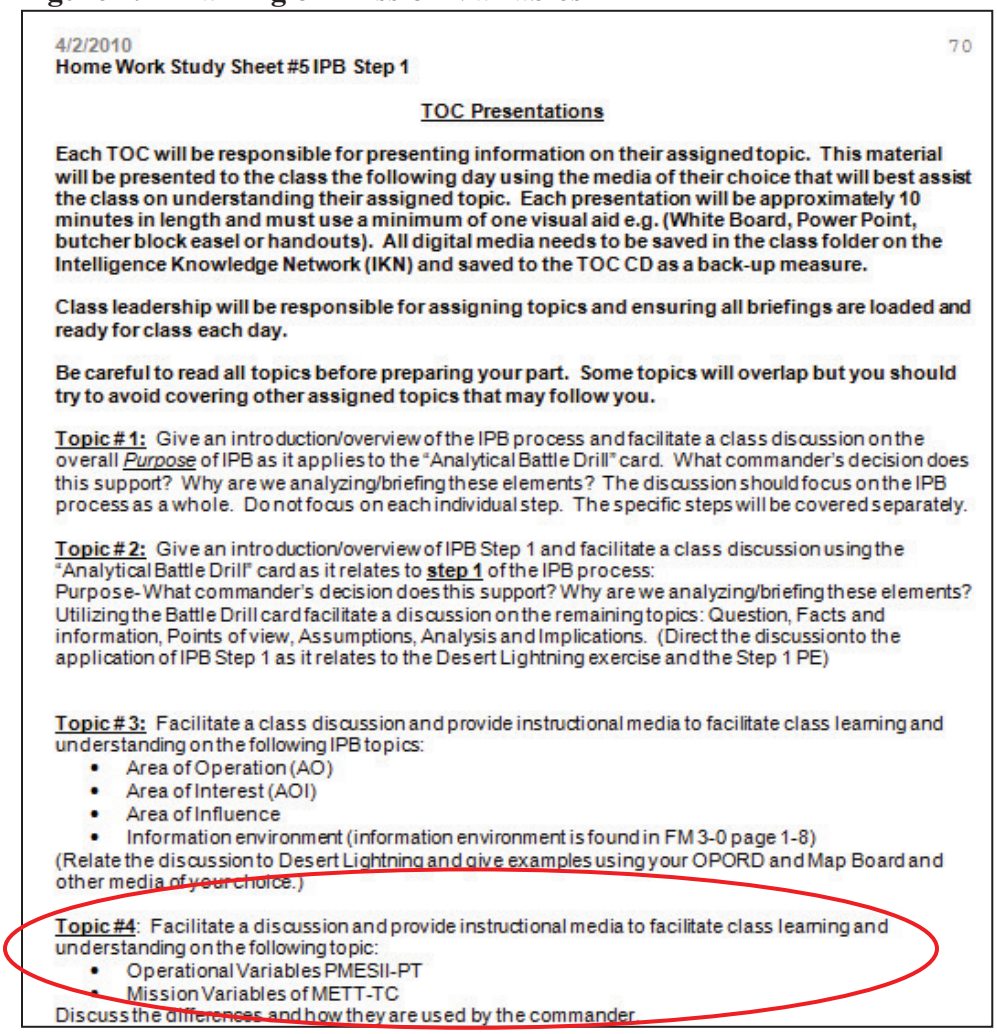
(2009 Urban IPB slides)

Mission Variables (WH1c)

Document Analysis

While not explicitly listed on a slide presentation, mission variables are discussed separately in different parts of the student practical exercise booklet. For example: mission, enemy, and terrain (METT-TC mission variables) are discussed in a hypothetical operations order (PE booklet 2010, 4). In addition to the operations order, the booklet provides a specific example of training on mission variables through topic presentations. Figure 4.4 provides an example of this type of training.

Figure 4.4 Training on Mission Variables



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Home Work Study Sheet #5 IPB Step 1

TOC Presentations

Each TOC will be responsible for presenting information on their assigned topic. This material will be presented to the class the following day using the media of their choice that will best assist the class on understanding their assigned topic. Each presentation will be approximately 10 minutes in length and must use a minimum of one visual aid e.g. (White Board, Power Point, butcher block easel or handouts). All digital media needs to be saved in the class folder on the Intelligence Knowledge Network (IKN) and saved to the TOC CD as a back-up measure.

Class leadership will be responsible for assigning topics and ensuring all briefings are loaded and ready for class each day.

Be careful to read all topics before preparing your part. Some topics will overlap but you should try to avoid covering other assigned topics that may follow you.

Topic # 1: Give an introduction/overview of the IPB process and facilitate a class discussion on the overall *Purpose* of IPB as it applies to the "Analytical Battle Drill" card. What commander's decision does this support? Why are we analyzing/briefing these elements? The discussion should focus on the IPB process as a whole. Do not focus on each individual step. The specific steps will be covered separately.

Topic # 2: Give an introduction/overview of IPB Step 1 and facilitate a class discussion using the "Analytical Battle Drill" card as it relates to **step 1** of the IPB process:
Purpose- What commander's decision does this support? Why are we analyzing/briefing these elements?
Utilizing the Battle Drill card facilitate a discussion on the remaining topics: Question, Facts and information, Points of view, Assumptions, Analysis and Implications. (Direct the discussion to the application of IPB Step 1 as it relates to the Desert Lightning exercise and the Step 1 PE)

Topic # 3: Facilitate a class discussion and provide instructional media to facilitate class learning and understanding on the following IPB topics:

- Area of Operation (AO)
- Area of Interest (AOI)
- Area of Influence
- Information environment (information environment is found in FM 3-0 page 1-8)

(Relate the discussion to Desert Lightning and give examples using your OPORD and Map Board and other media of your choice.)

Topic #4: Facilitate a discussion and provide instructional media to facilitate class learning and understanding on the following topic:

- Operational Variables PMESII-PT
- Mission Variables of METT-TC

Discuss the differences and how they are used by the commander.

(2010 Student PE booklet)

Structured Interviews

Structured interviews were also used to verify the existence of know-what knowledge. Interview responses indicate that training is conducted on mission variables. One respondent discussed the use of mission variables in different operational environments: "…those are trained through excersices that reflect environments in Iraq and Afghanistan." Students evaluate each variable and see how it applies to their specific task or mission. Collectively, the structured interview provide evidence of training on mission variables.

Summary of Findings (WH1)

Document analysis, structured interviews, and direct observation strongly support the existence of know-what intelligence at the MIBOLC. Each source of evidence indicates that a substantial amount of training is conducted on the operational environment and on operational and mission variables. Table 4.1 summarizes the findings for working hypothesis 1.

Table 4.1 Results for WH1

WH1: Intelligence Training Incorporates Know-What Knowledge		
WH1a: Operational Environment		
Source	**Finding**	**Level of Support**
Documents	Identified training on the operational environment	Strong Support
Interview	Identified training on the operational environment	Strong Support
WH1b: Operational Variables		
Source	**Finding**	**Level of Support**
Documents	Identified training on operational variables	Strong Support
Observation	Identified training on operational variables	Strong Support
Interview	Identified training on operational variables	Strong Support
WH1c: Mission Variables		
Source	**Finding**	**Level of Support**
Documents	Identified training on mission variables	Strong Support
Interview	Identified training on mission variables	Adequate Support

WH2: Intelligence Training Incorporates Know-How Knowledge

This study uses the intelligence warfighting function to verify the existence of know-how knowledge in junior officer intelligence training. The intelligence warfighting function contains four subordinate tasks: support to force generation; support to situational understanding; performance of intelligence, surveillance, and reconnaissance; and support to targeting and information superiority. The ability to successfully perform each of these tasks involves significant know-how knowledge. Thirty out of the forty-three documents reviewed in this study

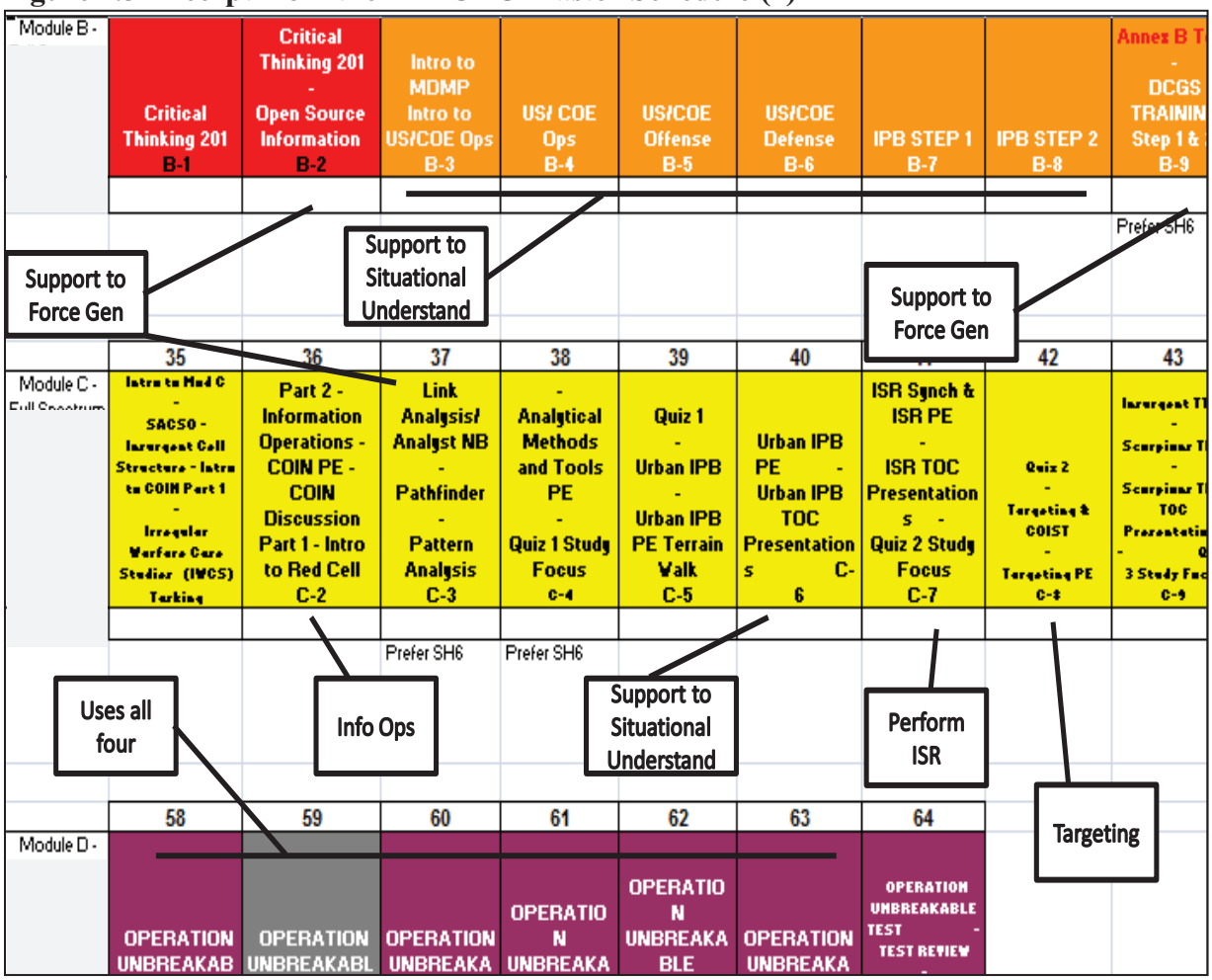
include references or specific instruction on the intelligence warfighting function and its subordinate tasks (see table 3.2).

Intelligence Warfighting Function (WH2a)

Document Analysis

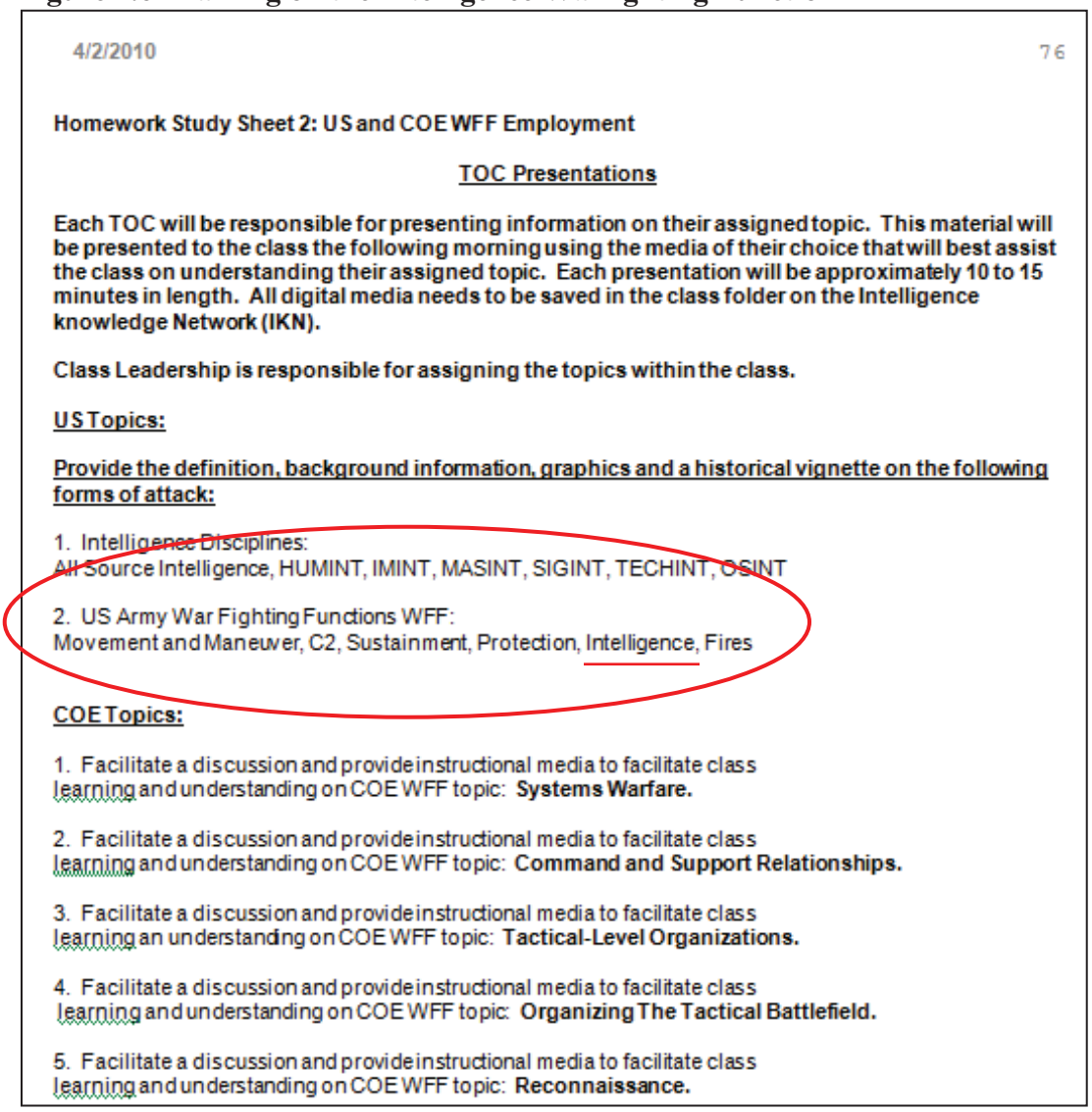
Several documents indicate a strong level of support that the intelligence warfighting function is incorporated into MIBOLC training. The principal sources include the MIBOLC Contemporary Operational Environment (COE) student reading booklet (2009), the student practical exercise (PE) booklet (2010), Stability and Civil Support Operations slides (2010), Information Operations slides (2010), Urban IPB slides (2010), ISR Synchronization slides (2010), Targeting Lesson Plan (2010), Introduction to Search Engines slides (2010), and the MIBOLC master schedule. While it is not explicitly stated, these documents strongly imply that training on the intelligence warfighting function is one of MIBOLC's major objectives. Figure 4.5 provides evidence of how the intelligence warfighting tasks are incorporated into the MIBOLC master schedule. In addition, figure 4.6 provides an example of specific instruction on the general concept of the intelligence warfighting function. Collectively, these items verify the existence of intelligence know-how.

Figure 4.5 Excerpt from the MIBOLC Master Schedule (1)



(Taken from MIBOLC master schedule 2010)

Figure 4.6 Training on the Intelligence Warfighting Function



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Homework Study Sheet 2: US and COE WFF Employment

TOC Presentations

Each TOC will be responsible for presenting information on their assigned topic. This material will be presented to the class the following morning using the media of their choice that will best assist the class on understanding their assigned topic. Each presentation will be approximately 10 to 15 minutes in length. All digital media needs to be saved in the class folder on the Intelligence knowledge Network (IKN).

Class Leadership is responsible for assigning the topics within the class.

US Topics:

Provide the definition, background information, graphics and a historical vignette on the following forms of attack:

1. Intelligence Disciplines:
All Source Intelligence, HUMINT, IMINT, MASINT, SIGINT, TECHINT, OSINT

2. US Army War Fighting Functions WFF:
Movement and Maneuver, C2, Sustainment, Protection, Intelligence, Fires

COE Topics:

1. Facilitate a discussion and provide instructional media to facilitate class learning and understanding on COE WFF topic: **Systems Warfare.**

2. Facilitate a discussion and provide instructional media to facilitate class learning and understanding on COE WFF topic: **Command and Support Relationships.**

3. Facilitate a discussion and provide instructional media to facilitate class learning an understanding on COE WFF topic: **Tactical-Level Organizations.**

4. Facilitate a discussion and provide instructional media to facilitate class learning and understanding on COE WFF topic: **Organizing The Tactical Battlefield.**

5. Facilitate a discussion and provide instructional media to facilitate class learning and understanding on COE WFF topic: **Reconnaissance.**

(2010 Student PE booklet)

Structured Interviews

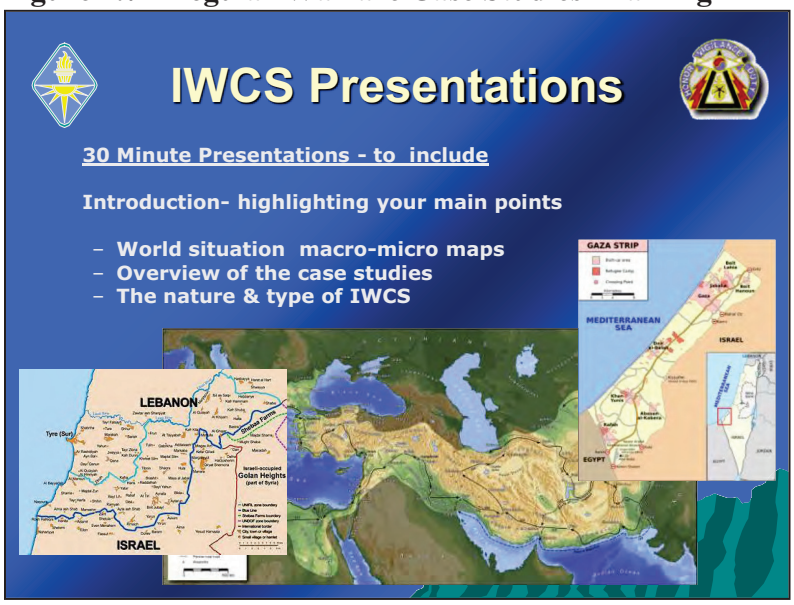
Structured interviews were also used to determine the existence of know-how knowledge in the MIBOLC. When asked what their major training objectives were, one respondent replied "intelligence support to the military decision making process." When further asked how, the instructor confirmed that it was done through the tasks under the intelligence warfighting function. These findings indicate that training is conducted on the intelligence warfighting function.

Support to Force Generation (WH2b)

Document Analysis

Document analysis was also used to confirm the existence of training on support to force generation. The documents evaluated in this study do not specifically state that training on support to force generation is conducted. However, when closely analyzed, several instruction materials did in fact verify its use. The support to force generation tasks involve training on several skills such as developing knowledge databases or refining database research skills. Training on how to develop irregular warfare case studies (IWCS) and training on how to use research engines accomplishes the previously mentioned tasks. Figures 4.7 and 4.8 provide examples of this type of training. Establishing an intelligence architecture is another skill under the support to force generation task. This is done by training on the Distributed Common Ground/Surface System (DCGS). "DCGS is the overarching Department of Defense (DoD) integrated communications and information architecture program for the Joint Task Force and below" (DCGS reference guide 2009, 7). These findings indicate a strong level of support with regard to training on support to force generation.

Figure 4.7 Irregular Warfare Case Studies Training



(2010 Irregular warfare case studies brief)

Figure 4.8 Training on Search Engines

(2010 Introduction to Search Engines slides)

Structured Interviews

The use of structured interviews to verify the existence of support to force generation training yielded a level of limited support. When asked how training was conducted on this task, one instructor replied that it is not really done. When further asked about training on research databases, the instructor confirmed the use of this training. The limited support level, in this case, can be attributed to a lack of understanding of the support to force generation task.

Support to Situational Understanding (WH2c)

Document Analysis

Several documents obtained from the MIBOLC indicate a strong level of support with respect to training on support to situational understanding. The primary mechanism used to train this task is intelligence preparation of the battlefield (IPB). The specific documents used to train on this subject include the MIBOLC Contemporary Operational Environment (COE) student reading booklet (2009), the student practical exercise (PE) booklet (2010), and the regular and Urban IPB slides (2010). Knowing how to conduct IPB is an essential skill for every intelligence officer. A well prepared IPB product can build flexibility into a commander's plan and provide him or her information on the operational environment, the battlefield effects, the threat, and on possible threat courses of action. These findings provide evidence that know-how intelligence knowledge is incorporated into MIBOLC training.

Structured Interviews

Structured interviews were also used to examine the level of know-how knowledge in the MIBOLC. When asked to describe training on support to situational understanding, one respondent replied: "It's first done through IPB classroom instruction, then a terrain walk followed by student presentations." This methodology allows students to receive the training,

digest it, visually experience it, and then explain it themselves. When asked what his major training objectives are, one respondent replied, “Iintelligence support to the military decision-making process through IPB.” These findings indicate a strong level of support with regard to training on support to situational understanding.

Direct Observation

Direct observation of the urban IPB block of instruction verified that know-how knowledge was covered in the Military Intelligence Basic Officer Leaders Course. Students learned how urban terrain can affect mission planning. For example, under normal or regular IPB, analysts learn to identify simple aspects of terrain. Under urban IPB, students learn to analyze building composition, sewer systems, and city demographics. After some lessons on how to conduct urban IPB, students were given the opportunity to analyze urban terrain from a single picture. Figure 4.9 depicts one of the student exercises used to conduct urban IPB. These recorded observations indicate a strong level of support with respect to training on support to situational understanding.

Figure 4.9 Training exercise on Urban IPB

(2010 Urban IPB slides)

Perform Intelligence, Surveillance, and Reconnaissance (WH2d)

Document Analysis

Documents obtained from the MIBOLC indicate a strong level of support with respect to training on intelligence, surveillance, and reconnaissance (ISR). Figures 4.10 and 4.11 verify that ISR is covered in MIBOLC. ISR involves many processes, assets, and individuals; as a result, training on each aspect becomes imperative. An illustration of this phenomenon is the use of unmanned aerial vehicles (UAV). Students are instructed on the capabilities and limitations of this system in order to plan and conduct surveillance missions. Figure 4.12 depicts some characteristics of the Shadow UAV. Collectively, these aspects support training on ISR and verify the existence of know-how intelligence.

Figure 4.10 Excerpt from the MIBOLC Master Schedule (2)

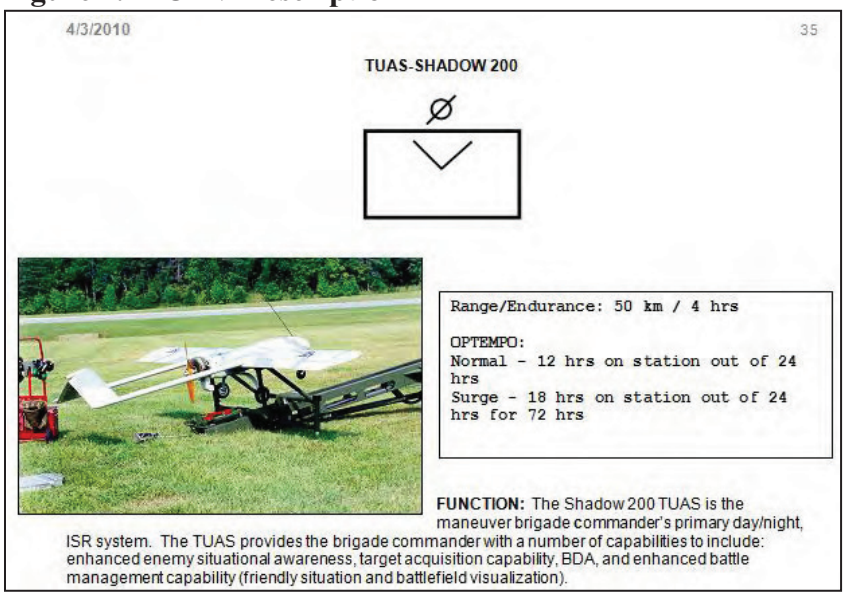
IPB STEP 1 B-7	IPB STEP 2 B-8	Annex B Test - DCGS TRAINING Step 1 & 2 B-9	ISR B-13	ISR Systems Day B-14	ISR B-15	ISR Terrain Walk B-16	ISR B-17
		Prefer SH6	Perform ISR				
41	42	43	47	48	49	50	51
ISR Synch & ISR PE - ISR TOC Presentations - Quiz 2 Study Focus C-7	Quiz 2 - Targeting & COIST - Targeting PE C-8	Insurgent TTPs - Scorpions TDG - Scorpions TDG TOC Presentations - Quiz 3 Study Focus C-9	Tactical Site Exploitation - Supervise Detainee Ops - MFT PE Stations C-13	MFT STX Intel Collection C-14	Quiz 3 - IWCS Presentations Peer Assessements - COIN Discussion Part 2 C-15	Intro to Operation DL II - BUB Guidance - Op DL II BUB 1 Message Traffic C-16	TOC BUB 1 - Op DL II BUB Message Traffic C-17

(MIBOLC master schedule 2010)

Figure 4.11 Training on ISR Synchronization

(2010 ISR slides)

Figure 4.12 UAV Description



(2010 Student PE booklet)

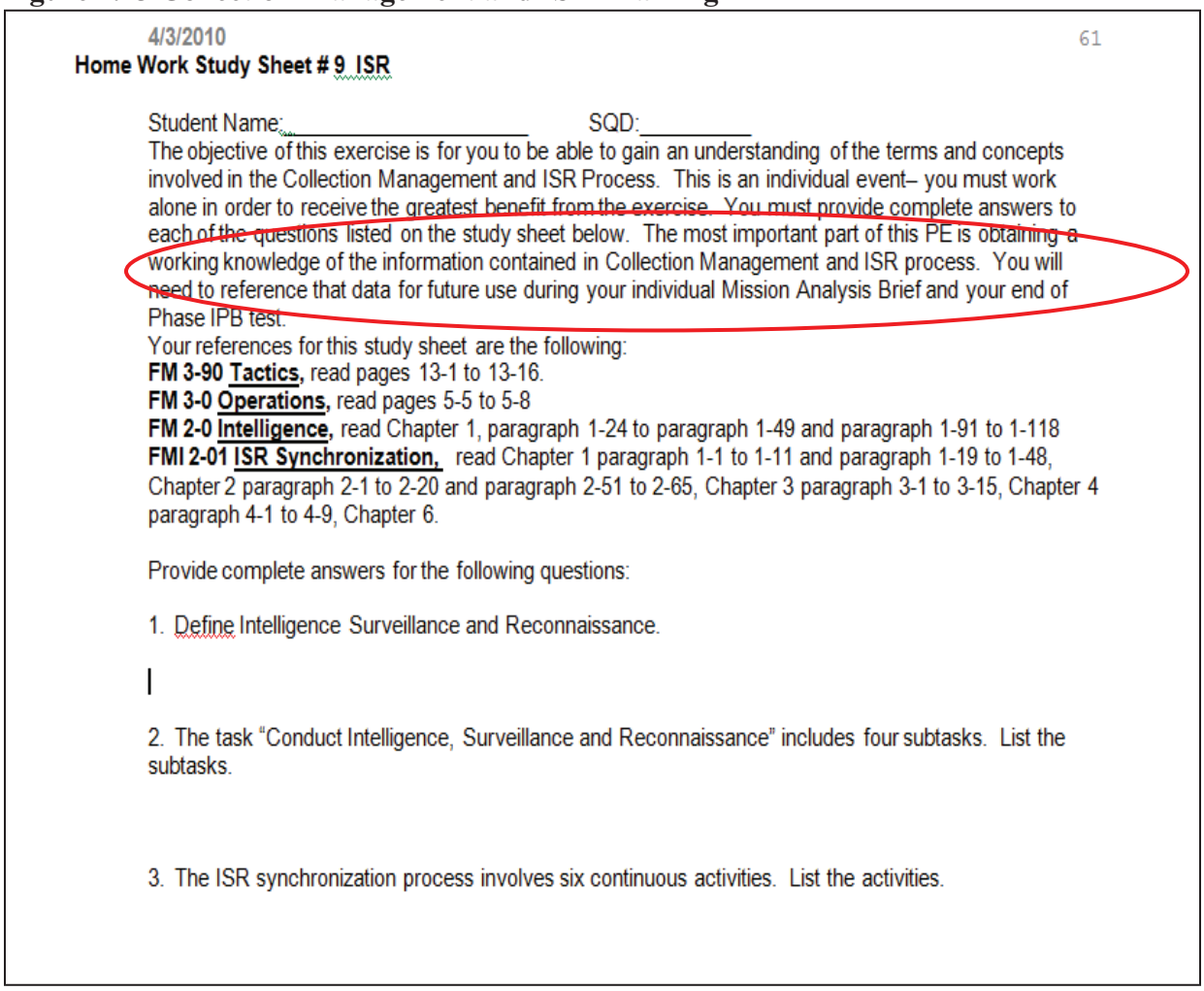
Structured Interviews

Structured interviews were also used to determine the existence of know-how knowledge in the MIBOLC. One instructor indicated that the ISR process is also applied throughout the entire course. Students initially learn about the process during the third week of instruction. Students then take the lessons learned and apply them to counterinsurgency exercises conducted later in the course. These findings indicate a strong level of support with respect to ISR training.

Direct Observation

Direct observation also provided a strong level of support in regard to ISR training. Figure 4.13 illustrates part of the observed exercise on ISR. This exercise is significant because it provides students with background on the ISR process. It also gives the instructor the opportunity to see whether the students read and understood the material. The training exercise consisted of a question-and-answer and discussion session. Collectively, these findings verify that know-how knowledge is incorporated into intelligence training.

Figure 4.13 Collection Management and ISR Training



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Home Work Study Sheet # 9 ISR

Student Name:_____ SQD:_____

The objective of this exercise is for you to be able to gain an understanding of the terms and concepts involved in the Collection Management and ISR Process. This is an individual event– you must work alone in order to receive the greatest benefit from the exercise. You must provide complete answers to each of the questions listed on the study sheet below. The most important part of this PE is obtaining a working knowledge of the information contained in Collection Management and ISR process. You will need to reference that data for future use during your individual Mission Analysis Brief and your end of Phase IPB test.

Your references for this study sheet are the following:

FM 3-90 Tactics, read pages 13-1 to 13-16.

FM 3-0 Operations, read pages 5-5 to 5-8

FM 2-0 Intelligence, read Chapter 1, paragraph 1-24 to paragraph 1-49 and paragraph 1-91 to 1-118

FMI 2-01 ISR Synchronization, read Chapter 1 paragraph 1-1 to 1-11 and paragraph 1-19 to 1-48, Chapter 2 paragraph 2-1 to 2-20 and paragraph 2-51 to 2-65, Chapter 3 paragraph 3-1 to 3-15, Chapter 4 paragraph 4-1 to 4-9, Chapter 6.

Provide complete answers for the following questions:

1. Define Intelligence Surveillance and Reconnaissance.

2. The task "Conduct Intelligence, Surveillance and Reconnaissance" includes four subtasks. List the subtasks.

3. The ISR synchronization process involves six continuous activities. List the activities.

(2010 Student PE booklet)

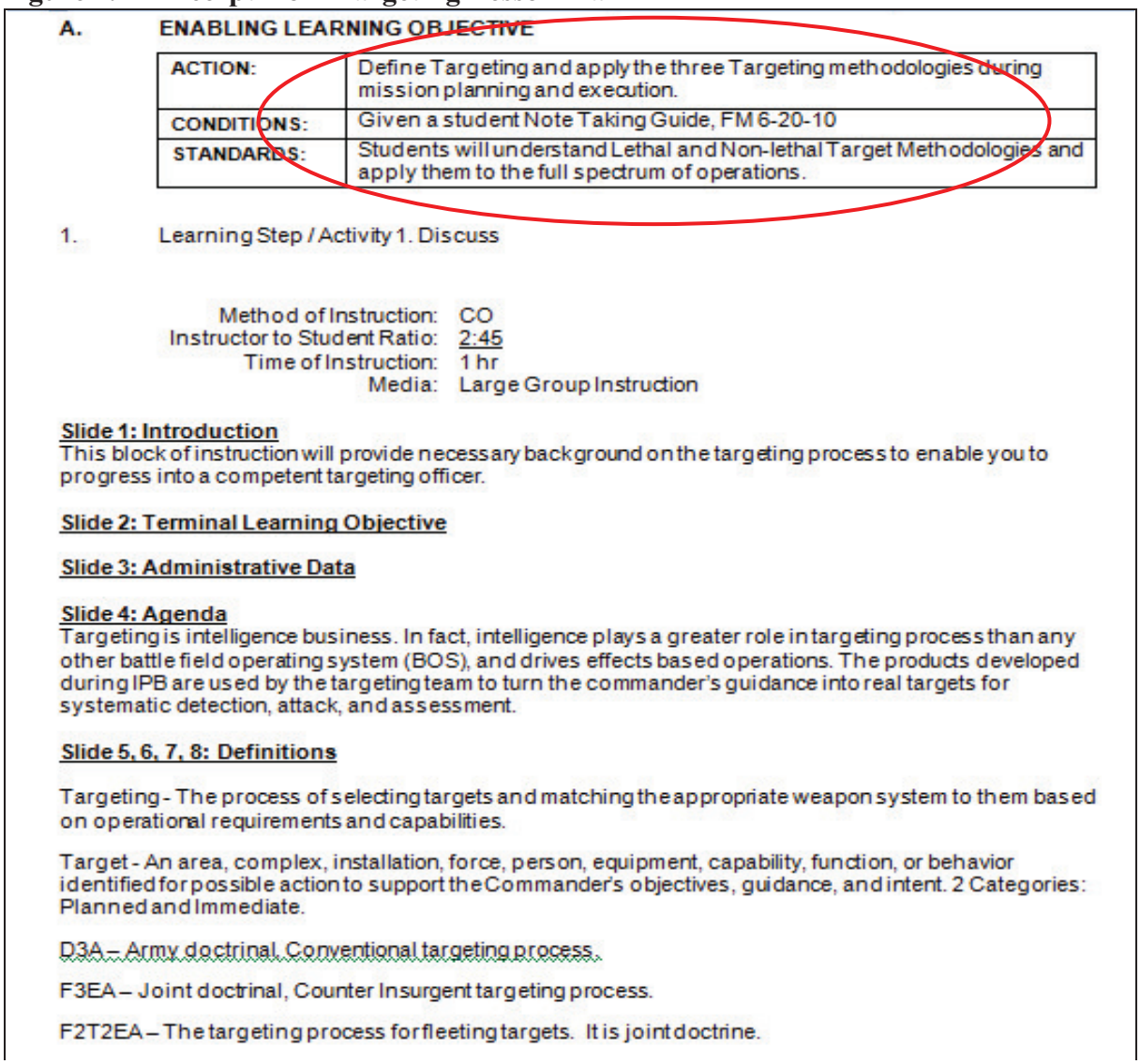
Support to Targeting and Information Superiority (WH2e)

Document Analysis

Document analysis also provided a strong level of support with respect to training on targeting and information superiority. See figures 4.14 and 4.15 for evidence of this type of training. The significance behind this training is that it gives students the ability to identify and plan lethal and non-lethal targets. While lethal targets serve conventional purposes, non-lethal targets are more intimately involved with asymmetric operations. For example, students are taught how the targeting process can use information operations to garner local support (usually

done through radio broadcasts or leader engagements). As a whole, these items verify the existence of know-how knowledge at the MIBOLC.

Figure 4.14 Excerpt from Targeting Lesson Plan



A. **ENABLING LEARNING OBJECTIVE**

ACTION:	Define Targeting and apply the three Targeting methodologies during mission planning and execution.
CONDITIONS:	Given a student Note Taking Guide, FM 6-20-10
STANDARDS:	Students will understand Lethal and Non-lethal Target Methodologies and apply them to the full spectrum of operations.

1. Learning Step / Activity 1. Discuss

Method of Instruction: CO
Instructor to Student Ratio: 2:45
Time of Instruction: 1 hr
Media: Large Group Instruction

Slide 1: Introduction
This block of instruction will provide necessary background on the targeting process to enable you to progress into a competent targeting officer.

Slide 2: Terminal Learning Objective

Slide 3: Administrative Data

Slide 4: Agenda
Targeting is intelligence business. In fact, intelligence plays a greater role in targeting process than any other battle field operating system (BOS), and drives effects based operations. The products developed during IPB are used by the targeting team to turn the commander's guidance into real targets for systematic detection, attack, and assessment.

Slide 5, 6, 7, 8: Definitions

Targeting - The process of selecting targets and matching the appropriate weapon system to them based on operational requirements and capabilities.

Target - An area, complex, installation, force, person, equipment, capability, function, or behavior identified for possible action to support the Commander's objectives, guidance, and intent. 2 Categories: Planned and Immediate.

D3A – Army doctrinal, Conventional targeting process.

F3EA – Joint doctrinal, Counter Insurgent targeting process.

F2T2EA – The targeting process for fleeting targets. It is joint doctrine.

(2010 Targeting Lesson Plan)

Figure 4.15 Training on Information Superiority

(2010 Information Operations slides)

Structured Interviews

The structured interviews revealed limited evidence for the existence of training on support to targeting and information superiority. When asked how training was conducted on this task, one instructor replied that it was done though slide presentations and through exercises in the student PE book. The other instructors provided similar comments and little else. The limited support level, in this case, can be attributed to a lack of research thoroughness on the part of the investigator.[29]

Summary of Findings (WH2)

Document analysis, structured interviews and direct observation strongly support the existence of know-how knowledge at the MIBOLC. Each source of evidence indicates that a

[29]While training on targeting and information superiority is apparent in the evaluated documents, the interviews provided little evidence. When questioned, the instructors acknowledged the training but did not supply much information on the matter. The limited support level is accurate; however, it should be noted that further investigation on targeting and information superiority training is needed. Further questions on this type of training may have provided additional evidence.

substantial amount of training is conducted on the tasks under the intelligence warfighting function. Table 4.2 summarizes the findings for working hypothesis 2.

Table 4.2 Results for WH2

WH2: Intelligence Training Incorporates Know-How Knowledge		
WH2a: Intelligence Warfighting Function		
Source	**Finding**	**Level of Support**
Documents	Identified training on the intelligence warfighting	Strong Support
Interview	Identified training on the intelligence warfighting	Strong Support
WH2b: Support to Force Generation		
Source	**Finding**	**Level of Support**
Documents	Identified training on support to force generation	Strong Support
Interview	Identified training on support to force generation	Limited Support
WH2c: Support to Situational Understanding		
Source	**Finding**	**Level of Support**
Documents	Identified training on support to situational understanding	Strong Support
Interview	Identified training on support to situational understanding	Strong Support
Observation	Identified training on support to situational understanding	Strong Support
WH2d: Perform Intelligence, Surveillance, Reconnaissance (ISR)		
Source	**Finding**	**Level of Support**
Documents	Identified training on ISR	Strong Support
Interview	Identified training on ISR	Strong Support
Observation	Identified training on ISR	Strong Support
WH2e: Support to Targeting and Information Superiority		
Source	**Finding**	**Level of Support**
Documents	Identified training on support to targeting and information	Strong Support
Interview	Identified training on support to targeting and information	Limited Support

WH3: Intelligence Training Incorporates Know-Who Knowledge

This study utilizes three criteria to verify the existence of know-who knowledge in junior officer intelligence training. The first pertains to the use of communities of practice. The second

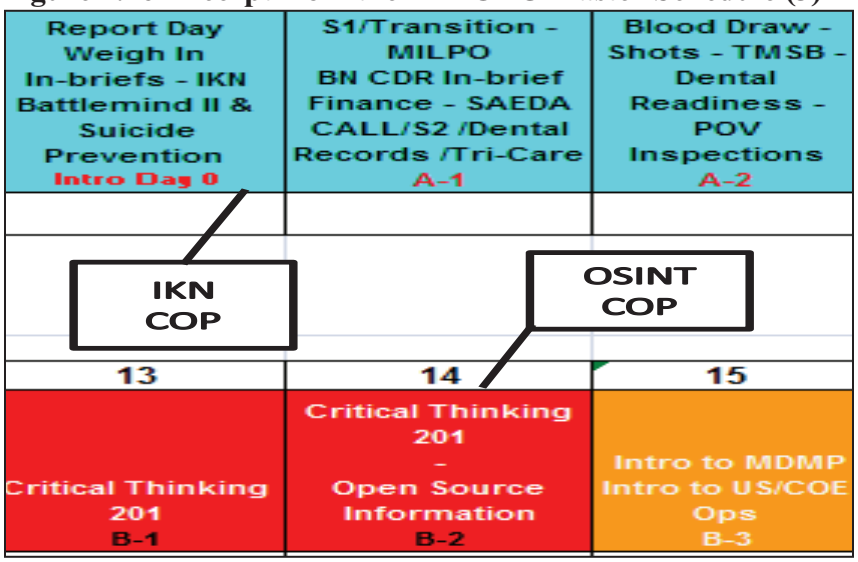
and third refer to forming relationships and drawing on others' abilities, respectively. Eight out of the forty-three documents reviewed in this study include references on communities of practice, forming relationships, and drawing on others' abilities (see table 3.2).

Communities of Practice (WH3a)

Document Analysis

Document analysis provided a limited level of support with regard to training on communities of practice. This researcher expected to find a specific class or block of instruction on the use of communities of practice (COP). This type of class should define what communities of practice are, why they should be used, and depict evidence of their use in the U.S. Army. While not explicitly identified, the MIBOLC does include training on communities of practice in two areas. The first pertains to a one-hour block of instruction on the intelligence knowledge network (IKN). The IKN is a restricted site that intelligence analysts can use to collaborate and share information. The second area involves the use of Intelink. "Intelink is intended to be a collaborative site for the Intelligence Community as a whole. Not just the Department of Defense, but also the State Department, Department of Homeland Security, and even Law Enforcement entities" (MIBOLC Open Source Intelligence slides 2009, 24). Figure 4.16 verifies the training of these two areas. Collectively, these findings provided limited verification of training on communities of practice at the MIBOLC.

Figure 4.16 Excerpt from the MIBOLC Master Schedule (3)



(MIBOLC master schedule 2010)

Structured Interviews

Structured interviews yielded limited support with respect to training on communities of practice. When questioned about communities of practice, the instructors verified their use through the intelligence knowledge network and through Intelink. This was the extent of the evidence on communities of practice training. Hence the limited verification of know-who knowledge.

Direct Observation

Direct observation provided limited support for training on communities of practice. This researcher expected to observe instruction on communities of practice or their actual use during instruction or practical exercises. The use of the intelligence knowledge network was witnessed on two occasions (during the ISR and urban IPB blocks of instruction). Students used these sites to access information regarding that day's training topic. Use of other sites such as Intelink was also observed during module D. Students used the site to conduct research on threat capabilities.

Forming Relationships (WH3b)

Document Analysis

Document analysis provided adequate support in regard to forming relationships. This researcher expected to find a specific block of instruction on how to form relationships through collaboration. This is accomplished through cultural awareness training. More specifically, the cultural awareness block of instruction includes training on building rapport. The MIBOLC provides training on building rapport through a practical exercise and homework assignment. The MIBOLC also provides training on collaboration through the use of the Thomas-Kilmann Instrument[30] on negotiation and conflict mediation styles. The Kilmann apparatus is used to asses an individual's behavior during conflict situations. One of the resulting mediation styles is the use of collaboration. Another example of training on forming relationships is the use of a cultural communication exercise. This practical exercise attempts to identify cultural value differences between two people. Appendix F provides a copy of this type of training. While training on forming relationships and collaboration is conducted, it is only done over five days of cultural awareness and urban operations training.

Structured Interviews

Structured interviews provided limited support with respect to training on forming relationships. When asked about this topic, the instructors stated that "it isn't really done." When further asked about forming relationships with other cultures, the instructors confirmed that this type of training is conducted during urban operations training.

[30]See http://www.kilmann.com/conflict.html for more on the Thomas-Kilmann Instrument.

Drawing on Others' Abilities (WH3c)

Document Analysis

Document analysis provided some support on drawing from others' abilities. This researcher expected to find a block of instruction on how to learn from others. The class would include training on the interactions among superiors, colleagues and subordinates, and training on listening and asking questions effectively. While the MIBOLC does not include a specific block of instruction on learning from others, it does include the use of peer reviews and after action reviews. These functions allow individuals to immediately receive feedback on their performance. Students can use this information to improve themselves or others in their group. Peer review forms and after action reviews are utilized after major briefings and training exercises. Appendix E provides a copy of a peer review form. These findings verify a limited emphasis on "drawing from others' abilities" in the MIBOLC.

Structured Interviews

The use of interviews yielded limited support with respect to training on drawing from others' abilities. When asked whether techniques to enhance students' ability to draw on others were introduced in training, the instructors initially stated no. However, after further discussion, the instructors indicated that they informally encouraged students to share their experiences and skills with others in their class. These findings provided limited verification that training is conducted on drawing from others' abilities.

Summary of Findings (WH3)

Documents, interviews, and observation provided limited proof of the existence of know-who knowledge at the MIBOLC. While only some evidence was found on communities of practice, forming relationships, and drawing from others' abilities, there are indications that

these types of training are incorporated into the MIBOLC. Table 4.3 summarizes the findings for working hypothesis 3.

Table 4.3 Results for WH3

WH3: Intelligence Training Incorporates Know-Who Knowledge		
WH3a: Communities of Practice		
Source	**Finding**	**Level of Support**
Documents	Identified training on communities of practice	Limited Support
Interview	Identified training on communities of practice	Limited Support
Observation	Identified training on communities of practice	Limited Support
WH3b: Forming Relationships		
Source	**Finding**	**Level of Support**
Documents	Identified training on forming relationships	Adequate Support
Interview	Identified training on forming relationships	Limited Support
WH3c: Drawing on Others' Abilities		
Source	**Finding**	**Level of Support**
Documents	Identified training on drawing from others' abilities	Limited Support
Interview	Identified training on drawing from others' abilities	Limited Support

WH4: Intelligence Training Incorporates Know-Why Knowledge

This study uses four criteria to verify the existence of know-why knowledge in the Military Intelligence Basic Officer Leaders Course. The first pertains to training that enhances a student's ability to recognize and construct causal relationships. The second, third, and fourth refer to training on adaptive, creative, and critical thinking, respectively. Eight out of the forty-three documents reviewed in this study include references or specific instruction on causal relationships, adaptive, critical, and creative thinking (see table 3.2). In addition to document analysis, structured interviews provided a limited to strong level of support on the training of causal relationships and the previously mentioned thought processes.

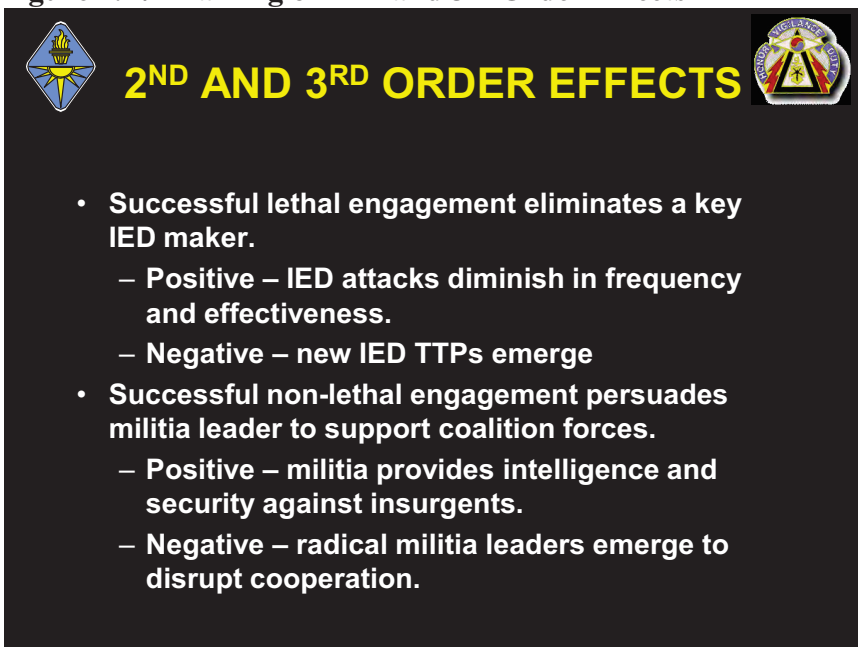
Causal Relationships (WH4a)

Document Analysis

Document analysis provided an adequate level of support in regard to training on the ability to infer causal relationships in a situation. The instruction of this type of training becomes evident when students are provided lectures on targeting. The targeting lesson plan and targeting slides describe the use of second- and third-order effects and the use of Effects Based Operations Non-lethal targeting. Figures 4.17 and 4.18 provide examples of these processes. The significance of this finding is that it provides students an opportunity to distinguish, develop, and use causal relationships in harmony. Students use the targeting process to identify the effects they want to achieve.

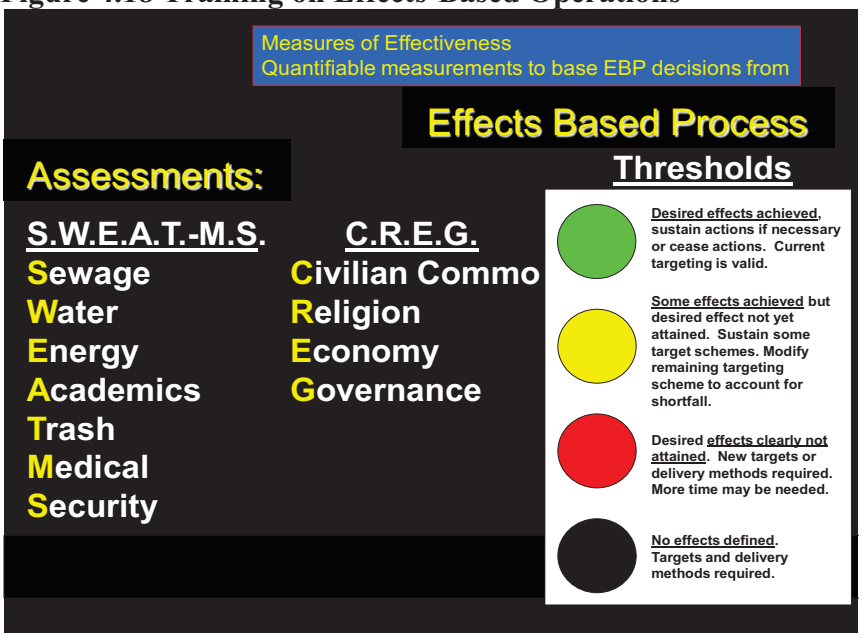
In addition, the MIBOLC incorporates the use of predictive analysis in step 4 of the IPB process. During this step, analysts try to determine what the enemy/threat will do next. Once an enemy makes commits to an action, the analyst must adjust his or her plan by trying to anticipate the enemy's next move. One can see how this could relate to causal relationships. Collectively, these items provide verification of cause-and-effect training at the MIBOLC.

Figure 4.17 Training on 2nd- and 3rd-Order Effects



(2010 Targeting slides)

Figure 4.18 Training on Effects-Based Operations



(2010 Targeting slides)

Structured Interviews

When questioned about the use of causal relationships, all instructors indicated that it is probably used in Step 4 of the IPB process. When further questioned on the matter, one

instructor discussed the training of second- and third-order effects. While done informally, the instructor encourages the students to think through the second- and third-order effects of an action in a counterinsurgency environment. Another instructor also indicated that training to recognize and develop causal relationships is possibly used in decision making and in improving analysis. Collectively, these comments provide limited evidence on cause-and-effect training at the MIBOLC.

Adaptive Thinking (WH4b)

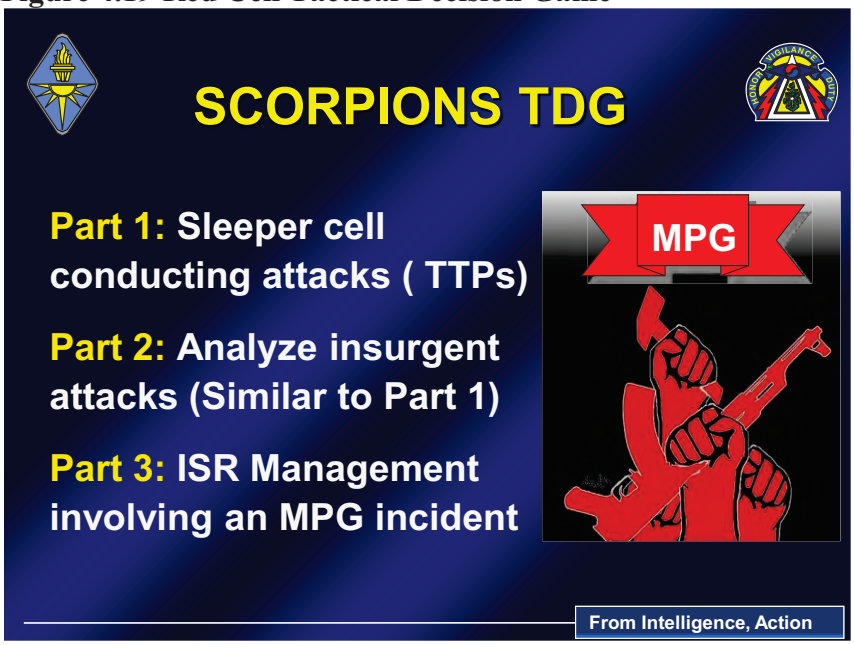
Document Analysis

While not explicitly stated, the Red Cell Tactical Decision Game (TDG) provides an avenue for intelligence officers to practice adaptive thinking. The object of the game is for students to think like insurgents by adapting to the situation. Students use this altered mindset to think in an unconventional manner. For example, during the Red Cell TDG students plan attacks on mock U.S. forces in order to disrupt their operations. The students then use these planned attacks to figure out what the enemy might do next. The exercise facilitates planning on how to counter unconventional attacks by initially planning for them. Figure 4.19 provides verification of this type of training.

The MIBOLC also uses cultural awareness training to promote adaptive thinking. During the MIBOLC, the students receive about three days of cultural awareness training. In that time, students are provided instruction on various topics such as building rapport, tactical questioning, and Afghan culture. Application of these skills becomes evident during urban operations training. Here, students conduct leader engagements as a part of the targeting process. Students participate in the engagement by adapting to cultural customs used in the training event. Figure 4.20 provides further evidence of cultural training. Evidence of adaptability is also seen when

students modify their actions based on information provided by key leader engagements. Student use the information to update plans and analysis. This ultimately allows students to identify enemy forces in the urban environment. Taken together, document analysis provided an adequate level of support with regard to training on adaptive thinking.

Figure 4.19 Red Cell Tactical Decision Game



(2010 Red Cell TDG slides)

Figure 4.20 Training on Afghan Culture

(2010 Afghan Culture slides)

Structured Interviews

Structured interviews provided a limited level of support with respect to training on adaptive thinking. One instructor stated that adaptive thinking is conducted during practical exercises and decision thinking games. In one instance, students are provided information during a training exercise. Each item of information requires students to adapt to the new scenario, and make a decision on what to do next. Another instructor discussed the possible use of adaptive thinking during an analysis of competing hypotheses (ACH). During the ACH, students are provided information (message traffic) concerning the threat. Students use this information to adapt to the situation and develop indications of what the enemy might do next. The object of this exercise is for students to see how different hypotheses can lead to different results.

During an interview, one of the instructors also discussed the use of cultural awareness training. He stated that it involved two days of classroom instruction and a practical exercise. During the practical exercise, students participate in the exercise then act as role players for the

next class. This is done to show students how culture can affect analysis. Collectively, the previously mentioned views adequately support the existence of adaptive thinking know-shy knowledge at the MIBOLC.

Critical Thinking (WH4c)

Document Analysis

Document analysis provided a strong level of support with regard to training on critical thinking. The MIBOLC provides training on critical thinking during the first two days of module B. The students are initially provided instruction on critical thinking then have an opportunity to conduct a training exercise. Documents providing evidence of critical thinking training include the Critical Thinking lesson plan (2010), the Critical Thinking Concepts and Tools Pamphlet (2008), and the Critical Thinking Student Guide (2009). The significance of these documents and their associated training is that they set the conditions for intelligence officers to restructure the way they think. This concept is especially important in asymmetric warfare. According to the Critical Thinking Student Guide (2009, 3), "Analysts must have the thinking skills necessary to quickly adapt to ever-changing situations and conduct predictive analysis, allowing battlefield commanders to seize and maintain the initiative. Critical thinking is a tool that will assist intelligence analysts to recognize and adapt to the ever-changing battlefield." Taken together, the previously mentioned items verify the existence of critical thinking know-why knowledge.

Structured Interviews

Structured interviews also provided a strong level of support with respect to training on critical thinking. The critical thinking block of instruction incorporates the use of the Paul and Elder model (2008).[31] According to the critical thinking instructor, "Critical thinking is done

[31]See http://www.criticalthinking.org/ for more on the Paul and Elder model

because it is not natural." Many of the MIBOLC students come from universities with ingrained forms of thinking. As a result, students form biases in their thinking. Critical thinking overcomes this by restructuring how studenst think and approach problems. Collectively, these views adequately identify critical thinking at the MIBOLC.

Creative Thinking (WH4d)

Document Analysis

Document analysis provides a limited level of support to suggest that officers received training on creative thinking. While not explicitly stated, Step 4 of the IPB process and the Red Cell Tactical decision game incorporate creative thinking. Both encourage the use of novel concepts to address dynamic situations in different operational environments. These processes demonstrate a limited existence of know-why knowledge.

Structured Interviews

Structured interviews provided a limited level of support in regard to training on creative thinking. Two instructors stated that creative thinking is encouraged in most of the training exercises, "Especially in those where they are required to think like the enemy. In our insurgent TTPs (tactics, techniques, and procedures) class, we also force them to think about how they would act if they were the enemy and what they would do based on what actions the Blue force takes." Creative thinking is encouraged, but it is not part of formal instruction. Taken together, these views verify a limited level of creative thinking know-why knowledge at the MIBOLC.

Summary of Findings (WH4)

Document analysis, structured interviews, and direct observation adequately support the existence of know-why knowledge at the MIBOLC. Each source of evidence indicates that a

limited-to-strong amount of training is conducted on causal relationships, and on adaptive, critical, and creative thinking. Table 4.4 summarizes the findings for working hypothesis 4.

Table 4.4 Results for WH4

WH4: Intelligence Training Incorporates Know-Why Knowledge		
WH4a: Causal Relationships		
Source	**Finding**	**Level of Support**
Documents	Identification of training on causal relationships	Adequate Support
Interview	Identification of training on causal relationships	Limited Support
WH4b: Adaptive Thinking		
Source	**Finding**	**Level of Support**
Documents	Identification of training on adaptive thinking	Adequate Support
Interview	Identification of training on adaptive thinking	Limited Support
WH4c: Critical Thinking		
Source	**Finding**	**Level of Support**
Documents	Identification of training on critical thinking	Strong Support
Interview	Identification of training on critical thinking	Adequate Support
WH4d: Creative Thinking		
Source	**Finding**	**Level of Support**
Documents	Identification of training on creative thinking	Limited Support
Interview	Identification of training on creative thinking	Limited Support

Chapter Summary

This chapter provided the results of the MIBOLC case study. The study included document analysis, structured interviews, and direct observation as sources of evidence. The overall results indicate a limited-to-strong level of support for all four knowledge categories at the MIBOLC. With respect to the working hypotheses, the results indicate a strong level of support for WH1 and WH2, a limited level of support for WH3, and a limited-to-adequate level of support for WH4. The following chapter provides some recommendations and conclusions based on these results.

Chapter V: Recommendations and Conclusions

Chapter Purpose

The purpose of this research project was twofold. The first part explored the different types of knowledge involved in military intelligence training. The second part used Lundvall's knowledge taxonomy to assess the types of knowledge acquired through intelligence training for junior officers in the Military Intelligence Basic Officer Leaders Course (MIBOLC). The following provides recommendations and conclusions based on the MIBOLC case study.

Recommendations

A case study was used to examine the types and level of know-what, know-how, know-who, and know-why knowledge found in MIBOLC. Table 5.1 summarizes the results and provides recommendations.

Know-What Knowledge

The MIBOLC infuses a substantial amount of know-what knowledge into its training and practical exercises. Training on facts associated with the operational environment, operational variables, and mission variables verifies the existence of this type of knowledge. The primary recommendation is that instructors and administrative officials at the MIBOLC continue their current training practices. The next recommendation, if not already implemented, is the modification of homework assignment #5, which asks students to define a series of key terms by using various field manuals. Instead of just defining the terms, the students should use the operations order (provided in student PE booklet) to describe the operational environment and list out the operational and mission variables as they pertain to the order.

Know-How Knowledge

The MIBOLC also infuses its training practices with a vast amount of know-how knowledge. Training on the intelligence warfighting function and its subordinate tasks provides verification of this type of knowledge. The principal recommendation for this type of training involves adding a block of instruction on the intelligence warfighting function. As an introductory method, the instructors could describe how each MIBOLC training event corresponds to the tasks under the intelligence warfighting function. An additional recommendation involves the use of a hypothetical targeting meeting/board. Such an event would provide students a better insight into the targeting process.

Know-Who Knowledge

Know-who knowledge is incorporated into the MIBOLC in a limited manner. Training is conducted on the use of communities of practice, but it is done so in an informal way, and may not be taken seriously by the students. The primary recommendation to improve know-who knowledge involves the creation of formal training on communities of practice, forming relationships, and training on drawing from other's abilities. Table 5.1 provides more details on these recommendations.

Know-Why Knowledge

The MIBOLC uses an adequate amount of know-why knowledge in its training and practical exercises. This is done by training on causal relationships under the targeting process and under Step 4 of the IPB process. To better understand causal relationships, training is also conducted on adaptive, critical, and creative thinking. The principal recommendation here is for administrative officials to formalize adaptive and creative thinking, and include it in the MIBOLC lesson plans as separate blocks of instruction.

Table 5.1 Findings and Recommendations

Table 5.1 MIBOLC Case Study Summary		
Working Hypotheses	**Evidence**	**Findings / Recommendations**
WH1: Intelligence Training Incorporates Know-What Knowledge		
WH1a: Training is conducted on the operational environment.	**Strong Support**	**Finding:** The MIBOLC provides a substantial amount instruction on the operational environment by studying different areas, countries, and cities, and the variables associated with them.
		Recommendation: Continue using the operational environment in the manner discussed above. Also, homework #5 should be modified to allow students to apply lessons on the operational environment. Students should describe the operational environment and list the operational and mission variables as they pertain to the Desert Lightning operations order.
WH1b: Training is conducted on the identification and understanding of operational variables.	**Strong Support**	**Finding:** The MIBOLC a provides substantial amount instruction on operational variables. Each variable is discussed at length and applied to different operational environments.
		Recommendation: Continue using the operational variables in the manner discussed above.
WH1c: Training is conducted on the identification and understanding of mission variables.	**Strong Support**	**Finding:** The MIBOLC provides substantial amount of instruction on mission variables. Each variable is reviewed in different sections of the course.
		Recommendation: Continue using the mission variables in the manner discussed above.
WH2: Intelligence Training Incorporates Know-How Knowledge		
WH2a: Training is conducted on the tasks under the intelligence warfighting function.	**Strong Support**	**Finding:** The MIBOLC provides a substantial amount of training on the intelligence warfighting function and its subordinate tasks.
		Recommendation: Include a small block of instruction on the intelligence warfighting function as part of the course overview prior to the start of module B. Demonstrate how the training is connected to doctrine and the "big picture" by listing which training events correspond to the tasks under the intelligence warfighting function.
WH2b: Training is conducted on support to force generation.	**Adequate Support**	**Finding:** The MIBOLC provides an acceptable amount of training on support to force generation. Training events include: search engine training, Distributed Common Ground/Surface System training, and irregular warfare case studies.
		Recommendation: Continue training on support to force generation in the manner discussed above. Also, tie the support to force generation task to specific training events throughout the course.
WH2c: Training is conducted on support to situational understanding.	**Strong Support**	**Finding:** The MIBOLC provides a substantial amount of training on support to situational understanding through IPB, Stability and Civil Support Operations, and Counterinsurgency Operations.
		Recommendation: Continue training on support to situational understanding in the manner discussed above.
WH2d: Training is conducted on intelligence, surveillance, and reconnaissance.	**Strong Support**	**Finding:** The MIBOLC provides a substantial amount of training on intelligence, surveillance, and reconnaissance (ISR). This type of training includes ISR synchronization and training on collection systems.
		Recommendation: Continue training on ISR in the manner discussed above.
WH2e: Training is conducted on support to targeting and information superiority.	**Adequate Support**	**Finding:** The MIBOLC provides an acceptable amount of training on support to targeting and information superiority through targeting and information operations slide presentations and lesson plans.
		Recommendation: If feasible or not already done, conduct a hypothetical targeting meeting with the instructors acting as representative from the other warfighting functions (maneuver, fires, protection). This action will demonstrate how a targeting meeting is conducted and how intelligence can support lethal and non-lethal target nominations.

Table 5.1 Findings and Recommendations (continued)

Table 5.1 MIBOLC Case Study Summary		
Working Hypotheses	**Evidence**	**Findings / Recommendations**
WH3: Intelligence Training Incorporates Know-Who Knowledge		
WH3a: Intelligence training includes training on communities of practice.	**Limited Support**	**Finding:** The MIBOLC provides some training on the use of communities of practice (COP).
		Recommendation: Create a block of instruction that explains what communities of practice are and how students can benefit from them. Also, have students register themselves on various COP. Then assign them homework asking basic questions about the organization and what they learned.
WH3b: Intelligence training includes training on forming relationships.	**Limited Support**	**Finding:** The MIBOLC provides some training on forming relationships.
		Recommendation: Create a formal block of instruction that explains the importance of forming professional relationships. The instructors should emphasize the use of networking and professional development. These two actions will teach students how to better form and maintain relationships. The instructors can also use their own experiences as examples.
WH3c: Intelligence training includes training on drawing from others' abilities.	**Limited Support**	**Finding:** The MIBOLC provides some training on drawing from others' abilities.
		Recommendation: Continue the use of after action reviews and peer evaluations. Also, create a small block of instruction and provide individuals some ideas on how to learn from one another. Ideas can include professional development, how to teach others, and learning new thought processes.
WH4: Intelligence Training Incorporates Know-Why Knowledge		
WH4a: Intelligence training includes training on causal relationships.	**Limited Support**	**Finding:** The MIBOLC provides some training on causal relationships.
		Recommendation: Create a block of instruction that explains what causal relationships are. The training should include the explanation of second- and third-order effects. The training should be considered as an additional tool to predictive analysis and not a replacement. These actions will assist intelligence analysis.
WH4b: Intelligence training includes training on adaptive thinking.	**Limited Support**	**Finding:** The MIBOLC provides an limited amount of training on adaptive thinking.
		Recommendation: Create an additional block of instruction that explains the use of adaptive thinking thoroughly. Make sure to identify where it should be used in the MIBOLC.
WH4c: Intelligence training includes training on critical thinking.	**Adequate Support**	**Finding:** The MIBOLC provides an adequate amount of training on critical thinking. The training includes a two-day block of instruction along with empahsis of its use throughout the MILBOLC
		Recommendation: Continue training on critical thinking in the manner discussed above. Also, increase the amount of time spent on this subject by a day or half a day in order to conduct more practical exercises.
WH4d: Intelligence training includes training on creative thinking.	**Limited Support**	**Finding:** The MIBOLC provides some training on creative thinking.
		Recommendation: Create an additional block of instruction that explains the use of creative thinking thoroughly. Make sure to identify where it should be used in the MIBOLC.

Prioritized Recommendations

The following depicts a prioritization of the recommendations in this study. Implementation of these recommendations will improve training practices and increase the levels of know-what, know-how, know-who and know-why knowledge at the MIBOLC

Table 5.2 Prioritized Recommendations

Table 5.2 Prioritized Recommendations			
Order of Importance	**Issue**	**Discussion**	**Recommendation**
1	Add formal instruction on causal relationships, adaptive thinking and creative thinking	Formal instruction on each of these topics will improve analysis and supplement the use of critical thinking throughout the course.	1, 4
2	Add formal instruction on communities of practice, forming relationships, and drawing on others' abilities	Formal instruction will focus attention on these topics. Students will take the lessons learned here and apply them to their careers.	1, 2, 4
3	Continue current training practices on the operational environment	A possible improvement involves the use of a practical exercise where students formally list the operational and mission variables as they pertain to a hypothetical operations order.	2, 3
4	Continue current training practices on the intelligence warfighting function	A possible improvement involves the creation of a block of instruction on the intelligence warfighting function and its subordinate tasks. This will demonstrate how each training event is tied to the intelligence warfighting function.	2, 3

Recommendation Key:
1. Important/significant to mission success
2. Easy to implement
3. Modify existing method
4. Add new material

Research Bias

The results of this study should be interpreted with caution because of selectivity, reflexivity, and question bias (Yin 2009, 102). The documents analyzed in this study are susceptible to selectivity bias for two reasons. First, training documents were missing or unavailable. Second, this study focused on a specific amount of documents and limited or omitted the use of others. An example of this is the limited review of module D documents (all of the necessary information was found in modules B and C). There may have been additional evidence in module D.

The interviews conducted in this study may be subject to bias for two reasons. The first pertains to reflexivity and the use of leading questions during the interview. This action often elicits the information the investigator wants to hear. Second, more time was spent on certain interview questions than on others. This action limited the responses to other questions.

The direct observations conducted in this study are also susceptible to selectivity and reflexivity bias. Selectivity bias occurs because the number of observations in this study are limited. This action precluded the observation of other events that could have provided additional supporting evidence. This study is also subject to reflexivity. The presence of an investigator/field grade officer may have altered some parts of the training events.

Additional Findings

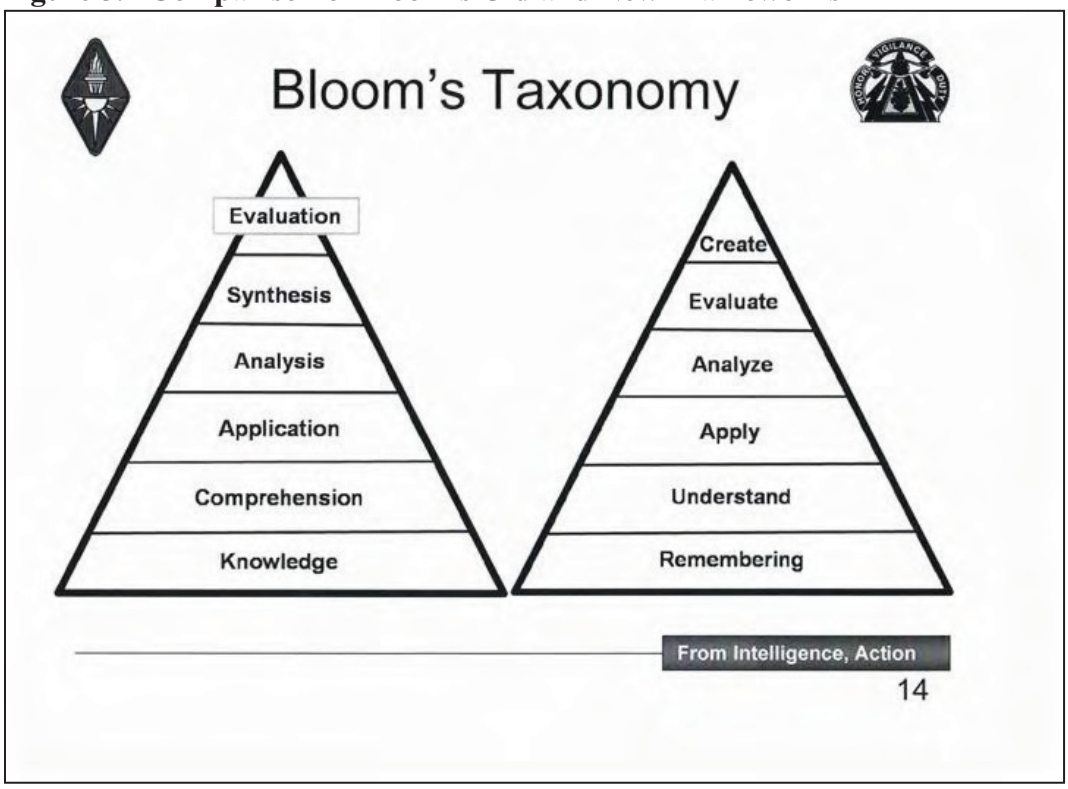
This investigation resulted in several findings that support the postulated knowledge categories. Two additional findings that merit discussion are the prevalence of a 21st Century Expeditionary Mindset and the use of Bloom's Taxonomy at the MIBOLC.

Much of the training conducted at the MIBOLC is centered on a contemporary mindset. This relates to a particular concept developed by Shields (2009), in the 21st Century

Expeditionary Mindset. Shields (2009, 9) uses four characteristics developed by Menaker et al. (2006, iii) to articulate this particular view: being mentally prepared to deploy anywhere; possess critical thinking skills in order to adapt; work with members of a joint team; and possess sufficient cultural knowledge of a certain area. These characteristics relate to the MIBOLC training objectives of preparing young officers to deploy into asymmetric environments.

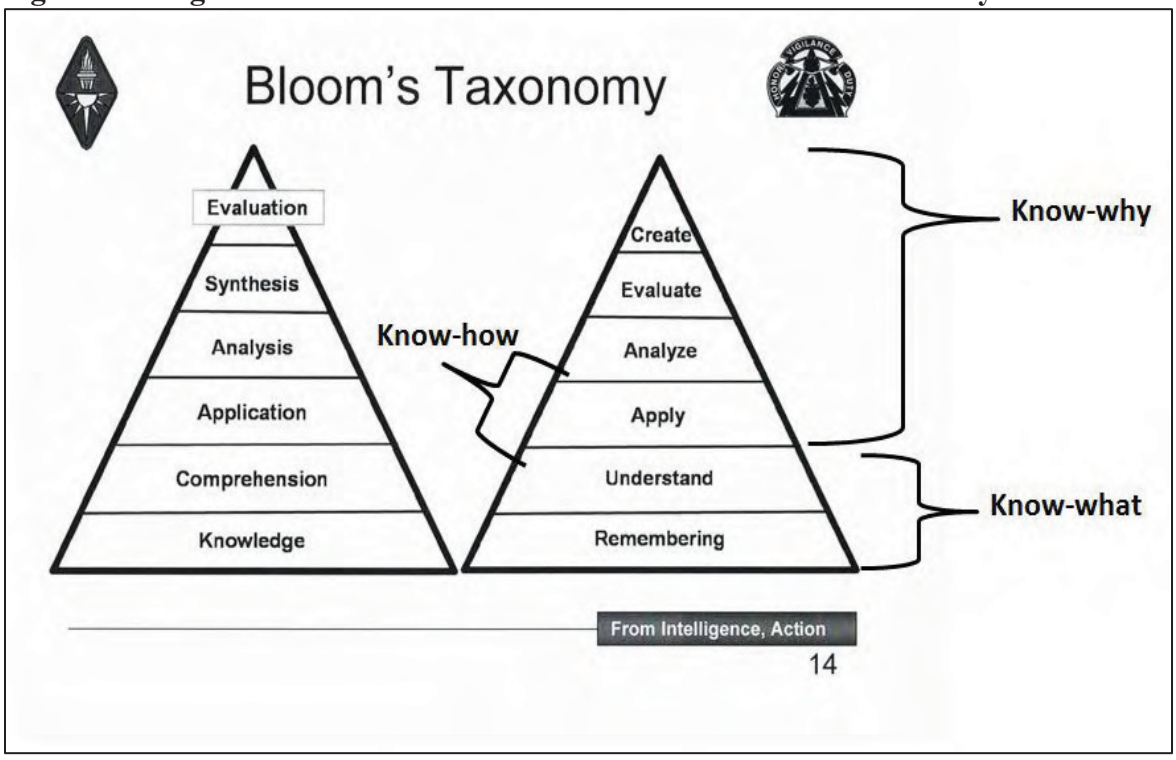
The MIBOLC uses Bloom's Taxonomy (modified) as one of its adult learning models (see figure 5.1) and its application is significant for several reasons. First, during the initial stages of this research project, Dr. Patricia Shields suggested that Bloom's Taxonomy could be partially merged with Lundvall's Knowledge Taxonomy. This can be attributed to the hierarchical structure each contains. The lower tiers under Bloom's Taxonomy are related to know-what knowledge, the middle to know-how knowledge, and the higher tiers to know-why. Know-who is closer to emotional intelligence and not part of Bloom's framework. Figure 5.2 depicts the taxonomies' relationships. This is also significant because one of the MIBOLC instructors indicated that most junior officers do not get past the apply and analyze tiers under Bloom's Taxonomy. This can be attributed to maturity, time in service, or lack of training. The previously mentioned tiers represent the initial stages of know-why knowledge. Not being able to get past these levels is possibly correlated with the results of this study, lack of adequate support for the know-why knowledge category.

Figure 5.1 Comparison of Bloom's Old and New Frameworks



(2010 MIBOLC slides)

Figure 5.2 Alignment of Bloom's Framework with Lundvall's Taxonomy



(2010 MIBOLC slides)

Future Research

Suggestions for further research include applying the knowledge categories to the Military Intelligence Captain's Career Course (MICCC) and to Brigade Combat Teams (BCT). This model can be applied to the MICCC in the same manner as the MIBOLC. Once the results are obtained, they should be compared to see whether there is a significant increase in know-who and know-why knowledge.

Applying this research to BCTs is also beneficial. The knowledge categories can be used to assess the junior officer intelligence training at various combat teams. Once the assessments are complete, the results from this study can be compared with those of the BCTs. Items to pay attention to include the increase/decrease or sustainment of know-what and know-how knowledge, and the improvement or sustainment of know-who and know-why knowledge. These results will provide the Army a better understanding of the types of knowledge involved in intelligence training.

Know-Where?

Another suggestion for further research is addition of a fifth knowledge category, know-where. This concept would involve training on geospatial intelligence, imagery intelligence, and mapping/terrain data. The knowledge gained from this training would improve the understanding of military spatial aspects and terrain selection. While know-where applies to military concepts, its use in other areas is limited.

Conclusion

The results strongly support the existence of know-what and know-how knowledge training at the MIBOLC. Know-who and know-why knowledge training is also present but only in limited to adequate amounts. While the course provides a foundation for conducting

intelligence analysis, two areas of instruction need improvement: fostering interpersonal relations and developing higher order thought processes. These findings are in line with Major General Flynn's 2010 assessment of intelligence operations in Afghanistan, where population-centric information gathering and adaptive thinking better support counterinsurgency operations (2010, 5,15). Improving the areas of know-who and know-why will support current operations by placing more of an emphasis on people and on how to think critically and adaptively. These findings apply to intelligence leaders at the United States Intelligence Center and to Brigade Combat Team commanders and intelligence officials. Improving know-who and know-why knowledge at the schoolhouse and at the tactical level will provide junior officers the ability to critically analyze the central intelligence aspect of counterinsurgencies, the people. Not improving know-who and know-why knowledge will limit an intelligence officer's abilities and therefore perpetuate a reluctance to view counterinsurgency operations in a holistic manner.

Chapter Summary

This chapter provided recommendations and conclusions based on the MIBOLC case study. The results indicate that know-what, know-how, know-who, and know-why knowledge are obtained in varying degrees by junior intelligence officers at the MIBOLC. This chapter also provided information on possible biases, additional findings, and suggestions for future research.

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Appendix A: Examples of Reviewed Documents

MIBOLC

COE

Student Reading

October 2008 (Excerpt)

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The Contemporary Operational Environment

Extracted from the July 2007 COE White Paper

Our military is at war and will likely remain so for the next several decades—it is our steady state environment. Furthermore, this war characterized by eroding public and political will, influences the military's freedom to operate. Unless some unforeseeable event similar to the 9/11 attacks occurs - public and political support for military operations will continue to be a challenge in the future.

Though US military forces are familiar with conflict, the current war – and those of the future – bears little resemblance to the wars that have shaped US Army doctrine. While the defining characteristic of the Cold War, for example, was a mutually understood logic that neither conventional war nor a nuclear exchange would result in acceptable consequences, the war we are in now with Islamic radicals has no such logic. This conflict more closely resembles the concept of unrestricted warfare postulated by Chinese military theorists. Some may argue that we are in an age where the rules of warfare are unknown or unpredictable; this is not the case. The rules are known, just simply not agreed to by both sides. We are constrained based upon own values and beliefs, as are our opponents, just not to the extent we are. Redefining the critical characteristics of the COE, both current and future, is essential to identifying and understanding the conditions and potential adversaries our Army will face.

Knowing who the next threat will be is not be as important as understanding that threat's potential capabilities and the environment in which threats will operate. By developing our understanding of the COE, and training on the conditions of its environment, the US Army will be ready to face current and future security challenges.

PMESII + PT VARIABLES

The variables are not limited to understanding an OE; they represent a compendium of things that require management in any OE. Military units and commanders will need to training for such management. US military must be prepared to understand and contend with the variables and their impacts.

Full spectrum training must stress a challenging conventional and unconventional fight on a cluttered battlefield with 2nd and 3rd order effects. Specifically, it is the linkage among variables that is critical to successful analysis – as the links set or create the conditions of each environment. Trainers and planners must understand this synergy and be prepared to adapt actions based upon the dynamic nature of this relationship. The variables apply to all relevant actors/players in an OE, both state and non-state actors. The following discussion provides a brief description of the COE variables.

Political. The political variable focuses on all political power within a given OE. Centers of political power may range from official state institutions to unrecognized groups (terrorists, criminal organizations, tribes, families) or individuals (dictators and terrorists). This includes the institutions of governance (both formal and informal), the ability to enforce the rule of law and those structures or elements which provide public services.

The political variable describes the distribution of responsibility and power at all levels of governance or cooperation. Such systems enjoy varying degrees of legitimacy with the populations at local, regional, and national (or transnational) levels. Both formally constituted authorities and informal or covert political powers influence events. Understanding the political circumstances within an OE will help the commander recognize key actors and visualize their explicit and implicit aims and their capabilities to achieve their goals. These actors can mobilize group identity, ideas, beliefs, action and violence to enhance their power and control over society, people, territory and resources; the sources of political mobilization may lie in the political leadership; religious, ethnic or economic communities; or in the indigenous security institutions such as the military or police.

This variable also captures the presence and significance of external organizations and other groups in an OE. Examples include groups united by a common cause, such as NGOs, private volunteer organizations, private security firms, transnational corporations, and international organizations that conduct humanitarian assistance operations.

Finally, political analysis of an OE addresses the concept of political 'will.' Will encompasses a unification of values, morals, agendas, effort, and the probability of acting on them. Through this unity, participants are willing to sacrifice individually for the achievement of the unified goal. Understanding the will of key groups (political, military, insurgent, and terrorist) in an OE will help further define various groups' goals and their willingness to support and achieve their ends.

Military. The military variable explores the military capabilities of all relevant actors (to include terrorist, militias, insurgents) within a given OE. Such capabilities include equipment, manpower, military doctrine, training levels, resource constraints, and leadership issues. Military leadership is especially important and gaining an understanding of individual leaders and the human characteristics of their forces is vital to success. Analysis should focus on an actor's ability to field forces and leverage them for use domestically, regionally, or globally.

Our enemies are flexible, thinking, and adaptive. Potential adversaries or groups have the knowledge and ability to use a combination of conventional and unconventional capabilities. When confronted by stronger military power, weaker forces will employ irregular capabilities and methods, using indirect approaches to achieve their aims. This variable also explores emerging thoughts and concepts that lead to adaptations, investment decisions or changes in operational designs.

Economic. The economic variable encompasses individual behaviors and aggregate phenomena related to the production, distribution, and consumption of resources. Specific factors may include the influence of industrial organization, international trade, development (foreign aid), finance, institutional capabilities, and the rule of law. Other factors include black market or underground economies, which are alternative structures indicating weaknesses in the mainstream economy. Such factors influence an actor's decisions to alter or support the existing order. These decisions usually result in conflict, but if resolved through legitimately recognized political means then such changes will likely not threaten international order.

Social. The social variable describes the cultural, religious, and ethnic makeup within an OE. A social system consists of the people, groups, and institutions that exhibit shared identity, behaviors, values, and beliefs. Social groups consist of groups organized, integrated, and networked by relationships, interacting within their environment. Societies are comprised of structured, interrelated, and overlapping groups and institutions, each with statuses and roles that support, enable, and provide opportunity to achieve personal or community expectations. Culture is a system of shared beliefs, values, customs, behaviors, and artifacts that the members of society use to cope with their world and amongst one another. Important characteristics of a social system include population demographics, migration trends, urbanization, standards of living, and cohesiveness of cultural, religious, or ethnic groups. Analysis is conducted on the network of social institutions, statuses, and roles that support and enable individuals.

Information. This variable describes the nature, scope, characteristics, and effects of individuals, organizations, and systems that collect, process, disseminate, or act on information. Information involves the access, use, manipulation, distribution, and reliance on data, media, and knowledge systems— civilian and military—by the global community. Information systems are the infrastructure that enables the dissemination and storage of information. Broadcast and internet media sources can rapidly disseminate competing views of military operations worldwide. For political aims, various actors seek to control and manipulate how the public (local, regional, national, and international) perceives the content and context of the situation. Media coverage influences US political decision making, popular opinion, and the sensitivities of coalition members. Observers and participants in conflict have unprecedented access to personally defined information sources.

Commanders must understand and engage the information environment to achieve their operational and strategic objectives. Complex telecommunications networks now provide many of the world's people with a vast and redundant web of communications capabilities. This communications redundancy allows for the constant flow of information. In developing countries, this may not be the case. Information may flow by less sophisticated means—couriers, graffiti, rumors, cultural symbols, art, literature, radio, and local print media. Understanding whatever communication infrastructure exists is important because it controls information flow and influences local, regional, national, and international audiences.

Infrastructure. The infrastructure is composed of the basic facilities, services, and installations needed for the functioning of a community or society. The degradation or destruction of infrastructure will affect the entire OE especially the political, military, economic, social, and information systems. This variable also reflects the technological sophistication of a given OE. Technological capability encompasses an actor's ability to conduct research and development and then capitalize on the results for civil and military purposes. The infrastructure variable reflects the technological level of the OE in terms of sectors of technological success or advancement, scientific and research institutions, technology acquisition policies, and the education and training facilities, which support the acquisition of technology, both domestically and through foreign sources.

Physical Environment. The physical environment defines the physical circumstances and conditions that influence the execution of operations throughout the domains of air, land, sea, and space. The defining factors are complex terrain and urban settings (super-surface, surface, and subsurface features), weather, topography, hydrology, and environmental conditions. Potential enemies understand that less complex and open environments expose their military weaknesses. Therefore, adversaries may choose to

operate in urban environments or other complex terrain and during weather conditions that may adversely affect US military operations and mitigate technological advantages.

Time. The variable of time influences military operations in terms of the decision-cycles, operational tempo, and planning horizons. It may also influence endurance or protraction of operations since popular support for extended operations may diminish over time. Political will and popular support for military operations are closely linked to the variable of time. Potential adversaries will use time against the US. Time is about asymmetry!

THE STRATEGIC ENVIRONMENT

The US military must avoid assessing the COE only through the eyes of the Cold War, 9/11, Operation Enduring Freedom (OEF), and Operation Iraqi Freedom (OIF). These conflicts certainly inform the future but they do not predict it. We must guard against preparing for the last conflict while ignoring potential future conflicts. The COE sets the conditions for Army training (in a task, conditions, standard construct) – and the related training implications are profound. Currently, the US Army is conducting operations in what Joint Doctrine describes as a "complex, interconnected, and increasingly global operational environment." We are a military at war simultaneously working to defuse other potentially explosive security challenges.

While the development of a single military peer competitor is unlikely in the near term, we must be realistic about the challenges posed by less well-equipped hostile national, transnational entities or coalitions/alliances that challenge traditional centers of power and leverage niche technologies. We must also remain cognizant that a well-led and well-trained force can effectively challenge even the most advanced technology. In some cases, our dominant capability is only a single technology away from obsolescence.

Emerging powers (national and transnational) will present substantial challenges to and changes in governance and leads to a pervasive instability. Regional powers will start to form and leverage power. New actors and combinations of actors will constantly appear and disappear from the scene. Civilians, private security firms, contractors, aid agencies, governmental organizations and media will be a normal part of any operational environment.

STRATEGIC ASSUMPTIONS

The following strategic assumptions framed the COE study.

- The US will remain actively engaged globally, either to support its own national interests or in response to its values.
- US national interests and values will be challenged across all elements of power.
- A military peer competitor is unlikely through 2015. Although the possibility of alliances that present a "near peer" capability are possible.
- The significance of regional alliances/partnerships will increase.
- Regional challenges (political, military, and economic) will increase in importance.
- The competition between and within cultures, civilizations, and associated ideologies will result in conflict and potentially challenge US national interests.
- Competition for natural resources will increase.
- Globalization will continue – driven by the flow of information and communication technology (ICT).

- The US is expected to remain a global economic power for the near future. However, others will challenge this position (India and China).
- While state-on-state conflict is less likely in the near term, it cannot be dismissed.
- Continued significance of non-state actors (media, business, NGOs, individuals, groups).
- Environmental issues and concerns will increase in importance.
- Legal and ethical issues will continue to shape military engagements.

Within this environment, the US military faces a formidable array of international challenges and potential adversaries: the war on terror, postwar violence and reconstruction in Iraq and Afghanistan and nuclear weapons programs in Iran and North Korea. In addition, simmering transnational problems that have received insufficient attention or resources during the past decade – including the spread of HIV/AIDS, environmental issues (climate change), crime, and uneven economic development – now pose grave risks and challenges to US national interests.

ADVERSARIAL COUNTERS TO US SECURITY STRATEGY

Adversaries continuously study US political and military actions, the ensuing international responses and fallout, and the perceived success and failures of such actions – as must we. In the last seven years, demonstrations of traditional US military prowess were evident around the globe. Military operations in Bosnia, Afghanistan and Iraq provided the world with fresh case studies from which to draw critical lessons learned. The following discussion examines how adversaries would likely seek to fight US and US-led coalition forces. Many of our recent lessons learned fall within that framework. Observations, both foreign and domestic, highlight:

Irregular tactics and strategies work! Success against the US does not require superior military capabilities, but rather the ability to sense and exploit US vulnerabilities and constraints. Adversaries are not required to counter US military power symmetrically; instead, fighting with unconventional, irregular

Student Home Work and Practical Exercise Book

Module A (Excerpt)

(POI # 3-30/C20B-35D)

MODULE B

ADVANCE SHEET

Purpose:

The purpose of Module B is to instill within the students an understanding of how intelligence supports decision-making in the Full Spectrum Operations (Offensive and Defensive Operations) environment. Students will learn and apply Critical Thinking to Army Doctrine, and be able to solve intelligence problems in non-traditional ways. Students will be introduced to US Army tactics, Critical Thinking, Intelligence Preparation of the Battlefield (IPB), Intelligence, Surveillance and Reconnaissance (ISR), Mission Analysis, the Military Decision Making Process (MDMP), and will successfully complete an Analysis and Battle Tracking scenario in a conventional, symmetrical conflict.

Measures of Effectiveness:

1. Students are familiar with US/COE tactics at the BN level

2. Students know the steps of IPB, and ISR Planning

3. Students understand how intelligence analysis will change tactical decisions (Center of Gravity)

4. Students understand the importance of collection to aid analysis and decision making

5. Students can successfully conduct a Mission Analysis Brief

6. Students can successfully analyze message traffic, answer PIR, and make tactical recommendations based on intelligence.

Concept of the Operation:

Days 0-2: Inprocessing/Briefings

Days 3-4: Critical Thinking

Days 5-8: US and COE Operations, introduction to Annex B

Days 9-15: Intelligence Preparation for the Battlefield (IPB), including Terrain Walk, Annex B Test

Days 16-18: Intelligence, Surveillance and Reconnaissance (ISR), including hands-on systems day

Days 19-20: Mission Analysis prep and TOC Briefs

Day 21: Military Decision Making Process steps 3-7

Day 22: Desert Lightning Analysis and Battle Tracking Test

Key Events:

Terrain Walk through Desert Lightning/San Pedro Area of Operation

ISR Systems day- hands-on look at intelligence systems used in theater today

10 Quizzes- Receive cumulative 80% or higher (not counted toward GPA, but leadership/motivation issue)

1 Annex B Test – 8/10, 80% or higher is passing

1 Group Mission Analysis Brief- Superior, Satisfactory or Unsatisfactory (failing)

1 Individual Analysis and Battle Tracking Test - Superior, Satisfactory or Unsatisfactory (failing)

SUBJECT **PAGE**

Desert Lightning OPORD	Page 4
2 BCT Order of Battle Chart	Page 12
2-1/1-17 Combined Arms Bn Combat Power	Page 13
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Country Brief Republic of Cochise	Page 17
CAB Scout Platoon	Page 29
PROPHET Ground AN/MLQ-40(V) 2	Page 33
SHADOW TUAS	Page 35
HUMINT Collection Team (HCT)	Page 37
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Home Work 1 (US/COE and COE Introduction)	Page 78

UNCLASSIFIED

2nd BRIGADE COMBAT TEAM OPORD DESERT LIGHTNING

COPY _____ OF _____COPIES

HHC, 2nd Brigade Combat Team

SITE MAVERICK (WL557925)

121500TNOVXX

REFERENCE: Maps; 1:250,000 Series 1501: Sheet NI 12-11 & 12-12, HN 12-2 & 12-3; 1:50,000, Series V 798: Sheet 3846 I, 3946 I & IV, 3947 I, II, III & IV.

Time Zone Used Throughout the Order: TANGO

Task Organization: See Annex A.

1. SITUATION

a. Enemy forces.

In an effort to settle a border dispute prior to full scale commitment of US forces, Maricopia invaded the Republic of Cochise (ROC) on 5 Nov XX. The Maricopian 30th Division Tactical Group (DTG) attacked toward Sierra Vista with the objectives of seizing the key passes through the Mule Mountains and capturing Libby Army Airfield, APOE for US forces. With the assistance of US close air support ROC border guard units delayed the Maricopian Division and lightly attrited lead elements. Having failed in its attempt to capture Libby prior to build up of US forces, the 30th DTG's lead brigade, the 180th Brigade Tactical Group (BTG) halted its westward movement. The 180th BTG is defending the passes through the Mule Mountains vicinity Tombstone and Bisbee waiting for reinforcements which will arrive within 12-24 hours. Enemy brigade reconnaissance assets were operating out to PL STAR in the brigade disruption zone. At least two SPF teams and unknown number of Maricopian People's Guerrillas (MPG) are operating in the vicinity of Sierra Vista. Two MI-24 Hind-Ds are supporting the 180th BTG, and the enemy has chemical capabilities and could emplace 1-2 chemical strikes in our sector.

b. Friendly forces.

1) III Corps

a) *Mission*: 2ND Brigade Combat Team and 1st Republic of Cochise (ROC) Infantry Div attacks in zone in order to destroy defending enemy forces east of San Pedro River prior to enemy commitment of second echelon. Be prepared to conduct peace enforcement operations.

b) *Intent*: I intend to attack rapidly through the enemy's disruption to secure key river fording and bridging sites over the San Pedro River, then continue the attack to destroy defending enemy in zone. We must secure initial key terrain quickly in order

to retain the speed of our attack in zone. Our purpose is to defeat the enemy's defense and deny the key terrain along the San Pedro River and access to the high-speed avenues of approach north and south of the Tombstone Hills. My desired end-state is to have 80% of our combat power established on PL ASTEROID prepared to repel a Brigade-sized counterattack.

2) 2ND Brigade Combat Team.

a) *Mission*: 2ND Brigade Combat Team attacks in zone from PL SUN to PL ASTEROID to seize OBJ KANSAS and OBJ ARIZONA starting at **131000TNOVXX** in order to destroy defending enemy forces east of San Pedro River prior to enemy commitment of second echelon. Be prepared to conduct peace enforcement operations.

Appendix B: Interview Questions

1. Which section of your training plan includes instruction on the OE?
2. What are the methods or techniques used to train on this aspect?
3. How much time is devoted to OE training?
4. Describe the methods or techniques used to teach or review the operational variables.
5. Are operational variables reviewed in different operational environments? If so, then how?
6. Describe the methods or techniques used to teach or review the mission variables.
7. Are mission variables reviewed in different operational environments? If so, then how?
8. What are your major training objectives?
9. What aspects of the intelligence warfighting function does your organization focus on?
10. Describe your training on support to force generation.
11. Describe your training on support to situational understanding.
12. Describe your training on conducting ISR.
13. Describe your training on support to targeting and information operations superiority.
14. What methods or techniques are used to train on the use of communities of practice?
15. Describe a few of the COPs that are emphasized in your training.
16. Describe your training on the forming of relationships.
17. How does your organization train on drawing from others' abilities?
18. Describe the methods used in the training of causal relationships.
19. Describe your training on adaptive thinking.
20. Describe your training on cultural intelligence.
21. How is critical thinking incorporated into your training plan?
22. Describe your critical thinking training.
23. How is creative thinking incorporated into your training plan?
24. Describe your creative thinking training.

Appendix C: Consent Form

Research Participation Consent Form
"Knowledge Management and Officer Intelligence Training"

You are invited to participate in a study regarding officer intelligence training. I am a graduate student in Public Administration at Texas State University at San Marcos. This study is part of my Applied Research Project, which is required for the Master of Public Administration degree. The purpose of this research is to explore the different types of knowledge intelligence training should provide in the development of Army intelligence lieutenants. In addition, through the use of structured interviews, Lundvall's knowledge taxonomy is used to assess the types of knowledge acquired through intelligence training at the Military Intelligence Basic Officer Leaders Course.

If you decide to participate, the study will be an interview in person or over the phone. If you are uncomfortable discussing certain subjects, please feel free to notify the interviewer or terminate your participation. The entire process will take no more than 60 minutes.

Any information that is obtained in connection with this study and can be identified with you will remain confidential and will be disclosed only with your permission.

If you have any questions, please ask me. If you have any additional questions later, you may contact me at vr1079@txstate.edu or (210) 240-4190. Additionally, you may contact my research advisor, Dr. Patricia Shields, at (512) 245-2143.

You will be offered a copy of this form to keep for your records.

You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time without prejudice after signing this form, should you choose to discontinue participation in this study.

By signing this document you understand that the views expressed in this report are those of the author and do not necessarily reflect the official policy or position of the Department of the Army, the Department of Defense, or the U.S. Government.

_____ _____

Signature of Participant Date

Appendix D: IRB Exemption

TEXAS STATE UNIVERSITY
SAN MARCOS
The rising STAR of Texas

Institutional Review Board

Request For Exemption

Certificate of Approval

Applicant: VICTOR RUIZ

Request Number : EXP2010U9627

Date of Approval: 01/27/10

Assistant Vice President for Research and Federal Relations

Chair, Institutional Review Board

Appendix E: Peer Review Form

MIBOLC Class 10-A02, Student AAR / FEEDBACK Criteria

1. Performance Objective 1: Briefing Skills

Did	Needs Work	Did Not	Performance Measure
☐	☐	☐	Confidence: posture, delivery, manner of speaking, volume, eye contact
☐	☐	☐	Prepared: had all information and materials ready at designated time
☐	☐	☐	Clarity: spoke in a clear manner, information was clear and understandable
☐	☐	☐	Professional: appearance and delivery
☐	☐	☐	Competence: studied the material, and delivered brief with authority
☐	☐	☐	Understandable/Knowledgeable: used doctrinal terminology and explained confusing terms/acronyms
☐	☐	☐	Used Time and Visual Aids: Briefed w/in time-frame, used appropriate aids
☐	☐	☐	Transition and flow

Remarks:_____

_____

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2. Performance Objective 2: Elements of Critical Thinking

Did	Needs Work	Did Not	Performance Measure
☐	☐	☐	Assumptions: Briefer made about audience and material
☐	☐	☐	Points of View: whose points of view were taken into account (briefer and audience)
☐	☐	☐	Purpose: what was the purpose of the brief…was it met, kept to the point and stayed "on-topic"
☐	☐	☐	Questions: What are you trying to figure out or solve
☐	☐	☐	Analysis and Implications: what if you're right OR wrong…(success or failure)
☐	☐	☐	Facts and Information: what do you still need to / want to know
☐	☐	☐	Concepts: Did briefer address all key concepts related to the issue

Remarks:_____

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Appendix F: Cultural Communications Exercise

Cross Cultural Communications PE: Infer Individual Values

Goal:
Identify potential Cultural Values differences between two people.

Instructions:
(1) Using the table below, identify the personal importance of the Values in *your* daily life.

(2) Think of someone you know from a different culture or sub-culture and infer the importance of the same Values from *their behavior*.

Yourself	Someone Else
Importance of Status	**Importance of Status**
1 – Minimal	1 – Minimal
2 – Moderate	2 – Moderate
3 – Maximal	3 – Maximal
Living by Defined Gender Roles	**Living by Defined Gender Roles**
1 – Minimal	1 – Minimal
2 – Moderate	2 – Moderate
3 – Maximal	3 – Maximal
Community Identity	**Community Identity**
1 – Self first	1 – Self first
2 – Self and the Group	2 – Self and the Group
3 – Self for the Group	3 – Self for the Group
Time Orientation	**Time Orientation**
1 – Planned	1 – Planned
2 – Flexible	2 – Flexible
3 – Unplanned	3 – Unplanned
Importance of Policy or Rules	**Importance of Policy or Rules**
1 – Minimal	1 – Minimal
2 – Moderate	2 – Moderate
3 – Maximal	3 – Maximal

How could you use this tool to enhance communication?

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