

See, Assess, and Communicate: The language of Combat Hunter

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ABSTRACT

A primary objective of the Border Hunter (BH) Program is to enhance the ability of individuals to “see”, “assess”, and “communicate” information, thus increasing their own situation awareness and the collective situation awareness of their unit. The premise is that individuals must develop the skills to identify tactically significant environmental cues, recognize baseline patterns and changes in order to connect the dots to interpret cues, and use a common language to effectively/efficiently communicate and report this kind of information to their unit. In order to assess the effectiveness of BH in meeting this objective, data were collected during a 20 day BH course on Combat Tracking, Enhanced Observation, and Combat Profiling / Human Terrain. The notion is that each of these topic areas should reinforce the overarching KSAs (Knowledge, Skills & Abilities) of “see”, “assess”, and “communicate” that transcend individual course domains and are regarded by many as critical for operational success. A pilot study demonstrated that as a result of Combat Hunter training, upon which BH is based, students provided more meaningful intelligence information. The BH course allowed a controlled evaluation of the relationship between intelligence value and Combat Hunter language. Results showed that participants did improve their ability to generate meaningful intelligence information and increase the use of a common language following the BH course. This paper will discuss the metrics and methods used to assess these KSAs pre- and post-BH training, along with their implications for the effectiveness of BH.

Note: The BH Program is a large multi-team effort sponsored by JFCOM.

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INTRODUCTION

When the United States began the Global War on Terrorism shortly after the attacks on Sep 11, 2001, they encountered an enemy using tactics that the United States had not seen on a large scale in quite some time. The nature of combat operations has changed significantly over the last decade. Traditional state-on-state warfare has increasingly given way to irregular warfare, in which non-state groups (e.g., insurgents) engage in violent conflicts with state entities. As a consequence of this development, one of the greatest challenges faced by military professionals is learning and implementing the principles of counterinsurgency (COIN) (Zeytoonian, 2006). Effective COIN operations require integration of detailed information regarding foreign cultures, social networks, and people (both combatants and non-combatants) into the Intelligence Preparation of the Battlefield (IPB). In COIN operations, intelligence information flows in the opposite direction than in conventional warfare. Instead of the command post, it is the infantryman on the ground that has the best information about the environment and the enemy. The United States faced a need to change its approach to more effectively position itself for success in COIN operations. This need led to the development of several initiatives, to include a program called Combat Hunter.

In the fall of 2006, the Combat Hunter training program was developed at the behest of General James N. Mattis, USMC, to train Marines to become better hunters, proactively seeking out, identifying, and engaging with the enemy while remaining hard targets. The Marine Corps Warfighting Lab (MCWL) identified enhanced optics and observation, behavior profiling, and human tracking as key components that would equip Marines with skills to think and act as hunters, and increase their combat effectiveness. The skills developed in each of these components are mutually reinforcing, producing highly trained observers who effectively *see*, *assess*, and *communicate* relevant information about the enemy and the environment. The importance of instilling these skills in as many Warfighters as possible given the current climate of irregular warfare and COIN

operations is highlighted by US Army Major General Michael T. Flynn in his report *Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan* (2010):

Some battalion S-2 officers say they acquire more information that is helpful by reading U.S. newspapers than through reviewing regional command intelligence summaries. Newspaper accounts, they point out, discuss more than the enemy and IEDs. What battalion S-2 officers want from higher-up intelligence shops are additional analysts, who would be more productive working at the battalion and company levels. The same applies to collection efforts. Officers in the field believe that the emphasis on force protection missions by spy planes and other non-HUMINT platforms should be balanced with collection and analysis of population-centric information. Is that desert road we're thinking of paving really the most heavily trafficked route? Which mosques and bazaars attract the most people from week to week? Is that local contractor actually implementing the irrigation project we paid him to put into service? These are the kinds of questions, beyond those concerning the enemy as such, which military and civilian decision-makers in the field need help answering. They elicit the information and solutions that foster the cooperation of local people who are far better than outsiders at spotting insurgents and their bombs and providing indications and warnings "left of boom" (before IEDs blow up). Flynn, M.T., Pottinger, M., Batchelor, P.D. (2010, January).

Further, Major General Flynn explains that "The soldier or development worker on the ground is usually the person best informed about the environment and the enemy." (Flynn, Pottinger, Batchelor, 2010).

Clearly, there is great potential value in information that can be collected by the individual Warfighter. Maximizing the value of that information, however, requires Warfighters to have the skills to better *see* relevant cues, indicators, and potential threats in the environment, *assess* that information with respect to the situation, and *communicate* that information efficiently and effectively. The training provided by the Combat Hunter program equips Marines with these

skills, and also introduces terminology related to Combat Profiling and Combat Tracking. Therefore, a potential outcome of Combat Hunter training is a standardized method, framework, and language to support these skills (Kobus, Palmer, Kobus, Ostertag, 2009).

This idea is in concert with Whorf's proposal that cognition and perception are shaped by one's native language (Whorf, 1956), thus a common language increases the likelihood of accurate and effective communication. Results from a study conducted by Winawer, et al (2007) demonstrated that Russian speakers were faster to discriminate two colors if they fell into different linguistic categories in Russian than if the two colors were from the same category, but English speakers tested on the identical stimuli did not show a difference under any condition. From this research, Winawer, et al (2007) suggests that "linguistic representations normally meddle in even surprisingly simple objective perceptual decisions." (Winawer, Witthoft, Frank, Wu, Wade, Boroditsky, 2007). Further research by Liddell (1997) suggests that the type of schooling an individual receives may have an effect on the type of narrative provided when describing a picture. This finding emphasizes the importance of a common method and framework, as well as a common language, for communication of information.

The team from Pacific Science & Engineering (PSE) developed a photo vignette assessment to help determine whether Combat Hunter training does, in fact, improve trainees' ability to *see*, *assess*, and *communicate* by way of a common method, framework, and language. The objective of this evaluation is to determine whether the use of terminology (language) and the quality of information in responses changes between pre- and post-training assessments. The team has thus far had two opportunities to use this assessment. The first was in a Combat Hunter Trainer Course, designed to develop senior Marines who could bring the Combat Hunter fundamentals to their battalions, thus allowing elements of the training to quickly reach a greater number of Marines. The second opportunity was at a JFCOM-led initiative known as the Border Hunter course, which expanded the reach of some components of Combat Hunter training to the US Army, Border Patrol, and other agencies.

Combat Hunter Trainer Course

The first Combat Hunter Trainer Course (CHTC) was conducted at Camp Pendleton by SOI-West in April 2009. The CHTC was developed to serve as the

certification process for all Mobile Training Cadre instructors who graduate the course. The intent was to run the course as a proof of concept to determine what adjustments / modifications needed to be made prior to formalizing the program of instruction.

For the photo vignette assessment carried out during the CHTC, two photos were selected from the database of the Combat Profiling subject matter expert (SME). Students were given 45 seconds to view each photo, then had five minutes to write down information they would report to higher command based upon their observation of the photo. This assessment was carried out prior to the Combat Profiling lecture material, and again (using the same photos) at the end of the Combat Profiling section of the course. The sample size for the pre-Profiling photo assessment was 39; however, 40 students participated in the post-Profiling assessment.

Analysis

A content analysis was conducted on pre- and post-Profiling responses. Responses were evaluated for the amount of information that was descriptive (e.g., 5 children) versus meaningful (e.g., dirt barrier in road to redirect traffic), and for the use of Combat Profiling terminology (e.g., area was an anchor point). A piece of information could be designated as descriptive or meaningful, but not both. If a response that was descriptive or meaningful also contained Combat Profiling terminology, it was then also counted as an instance of terminology use. Mean number of instances was computed across responses to the two photos for each dependent variable (Descriptive, Meaningful, and Terminology), separately for pre- and post-Profiling responses. A decrease in purely descriptive information and an increase in meaningful information between the pre- and post-Profiling responses would indicate improved information quality.

To further validate the content analysis, a global assessment of the intelligence value of the information provided in the pre- and post-Profiling responses was conducted by a combat experienced Intelligence Analyst.

Results

Because responses were anonymous, unpaired *t*-tests were conducted for each of the response types. The results of the content analysis indicated that for both photos, responses contained significantly less descriptive information post-Profiling than pre-Profiling. Responses also contained significantly more meaningful information post-Profiling than pre-Profiling. The use of Combat Profiling terminology in the responses was also significantly greater post-Profiling than pre-Profiling. The mean number of

instances of each response type, pre- and post-Profiling for each photo, is displayed in Table 1.

Table 1. Content analysis results for pre- and post-Profiling responses in the Combat Hunter Trainer Course.

Item	Response type	Pre-training Group Mean	Post-training Group Mean	Statistical Significance
Photo 1	Descriptive	7.15	3.31	$p < .01$
	Meaningful	3.31	5.08	$p < .01$
	Terminology	.03	1.9	$p < .01$
Photo 2	Descriptive	3.4	2.23	$p < .01$
	Meaningful	3.75	5.68	$p < .01$
	Terminology	.23	2.28	$p < .01$

In the assessment of intelligence value provided by the Intelligence Analyst, the pre-Profiling responses were characterized as including “typical” descriptions of clothing, weapons, etc. This information is good, but only provides part of the story and may not be regarded as particularly useful intelligence. Post-Profiling responses were characterized as containing more meaningful information that provided a unique intelligence picture that could be used to help identify a high value individual or potential threat of an IED emplacement. In the post- Profiling descriptions of these photos, Marines used key Combat Profiling terms that helped shape the intelligence picture of what they were observing.

The results of this pilot study suggest that the information reported by Marines qualitatively improved following Combat Profiling training. This training appears to have provided the skill set and the language for Marines to use in preparing reports that move beyond merely descriptive, and are more meaningful from an intelligence and tactical perspective.

Border Hunter Course

The Border Hunter course, held in April 2010 at Fort Bliss, TX, provided a second opportunity to administer the photo vignette assessment. Students in the Border Hunter course represented the U.S. Army, U.S. Border Patrol, Texas Rangers, Federal Bureau of Investigation (FBI), and Park Rangers. In addition, a group of U.S. Army soldiers was brought in to serve as role players for the Combat Profiling portion of the course. As part

of their preparation, the role players received abbreviated Combat Profiling training. Photo vignette assessments similar to those conducted during the Combat Hunter Trainer Course were administered to both students ($N = 42$) and role players ($N = 20$) before and after the Combat Profiling portion of the Border Hunter course, and to students before and after the Combat Tracking portion of the course.

Combat Profiling Photo Vignette Assessment

For the Combat Profiling portion of the course, three photos, approved by Combat Profiling SMEs, were selected from a variety of sources including the Combat Profiling SME’s database, the University of Central Florida research team, and from online resources. The photos were presented on multiple large screens in two classrooms to students and role players. Each photo was displayed for 45 seconds, then respondents were given five minutes to write down observations about the photo that they believed relevant for report to higher command. This assessment was conducted twice with the same photos; once prior to the start of the Combat Profiling portion of the course, and once at the completion of the Combat Profiling portion of the course (which coincided with completion of the entire course).

The following three figures show the photos that were used during the Combat Profiling photo vignette assessment task. Brief descriptions of information that could be extracted from the photos based on the principles of Combat Profiling are provided for each photo.



Figure 1. Photo 1 - Combat Profiling assessment

Figure 1 shows a photo which depicts a group of children outside of a building. The children appear to be lookouts for someone, and the boy in the middle chewing on a pencil is their leader. There are three children mimicking using binoculars suggesting they

are the ones chosen to observe and report back to the leader. The boy on the top of the stairs is scared or nervous and is using the stairs as a barrier between him and the group who is taking the photo. The girl holding the child in the center is welcomed in this group, and while not a lookout is unsure of whoever is taking the photo. This appears to be an anchor point for this group. The area around them is clean, suggesting that they frequent this area.



Figure 2. Photo 2 - Combat Profiling assessment

Figure 2 shows a meeting between U.S. personnel and a local of some importance in his home. An incident appears to have just occurred between the local and the U.S. Major that was not positive, as can be seen by the proxemic push the local is displaying.



Figure 3. Photo 3 - Combat Profiling assessment

Figure 3 shows a group of people in a market place. Something has occurred off-camera to the right that is creating a proxemic push, drawing almost everyone's attention in that direction. The postures and facial expressions exhibited in the crowd suggest that whatever has occurred off-camera has them concerned

or wary. Two of the individuals in the crowd appear not to be concerned with whatever is going on off-camera, and rather are focused on the individual taking the photo.

Analysis

Content Analysis - An Intelligence Analyst conducted a content analysis for all responses (students and role players) based on the instances of descriptive and meaningful information provided, and the use of Combat Profiling terminology. The number of instances of descriptive and meaningful information was tabulated, along with the number of instances of Combat Profiling terminology in the responses. A piece of information could be designated as descriptive or meaningful, but not both. If a response that was descriptive or meaningful also contained Combat Profiling terminology, it was then also counted as an instance of terminology use.

Mean number of instances was computed across responses to the three photos for each dependent variable (Descriptive, Meaningful, and Terminology), separately for pre- and post-Profiling responses. One-way ANOVAs were computed for each dependent variable to test for differences between the pre- and post-Profiling means. In addition, for the students only, two-way mixed design ANOVAs (Group X Test) were computed for each of the dependent variables to test for differences between the agencies represented by the students in the class. The comparisons were conducted for only the two agencies that comprised the majority of the class (U.S. Army ($N = 21$) and U.S. Border Patrol ($N = 17$)).

Intelligence Value – For each response (students and role players) the Intelligence Analyst also provided a rating based on an assessment of its value in providing useful intelligence to higher command. The rating was made on a seven point Likert scale (Not Useful at all (1) to Very Useful (7)). Intelligence value was based on two factors: 1) Whether the response provided insight into the situation represented in the photo, and 2) Whether the response would generate further questions or follow-up actions. Respondents were not informed that the information they provided would be evaluated using this method. Note that although a global assessment of intelligence value was conducted for responses obtained during the Combat Hunter Trainer Course, the *rating* of intelligence value was not provided for responses from that course.

Mean rating of intelligence value was computed across responses to the three photos, separately for pre- and post-Profiling responses. A one-way repeated measures ANOVA was computed to test for differences between

the pre- and post-Profiling means. In addition, for the students only, a two-way mixed ANOVA (Group X Test) was computed to test for differences between the students representing the U.S. Army and those representing the U.S. Border Patrol.

Results

Content Analysis: Students - The descriptive information significantly decreased between pre- and post-Profiling responses, while the use of meaningful information significantly increased. Further, the mean number of instances of Combat Profiling terminology showed a significant increase between pre- and post-Profiling responses. The mean number of instances of each response type, pre- and post-Profiling, is displayed in Table 2, along with the one-way ANOVA results for pre- vs. post-Profiling differences in responses of each type.

Table 2. Content analysis results for Student pre- and post-Profiling responses in the Border Hunter course (N = 42).

Response Type	Pre-Training Group Mean	Post-Training Group Mean	Statistical Significance
Descriptive	2.93	1.37	$p < .05$
Meaningful	1.98	3.09	$p < .05$
Terminology	0.47	1.18	$p < .05$

The results of the two-way ANOVA testing for differences between students representing the U.S. Army and students representing the U.S. Border Patrol indicated that no statistically significant differences existed between the groups' pre- and post-Profiling responses. This finding suggests that the training had similar effects in both groups, and that single group did not skew the results for the group as a whole. Table 3 displays the mean number of responses of each type, pre- and post-Profiling for each group of students.

Table 3. Content analysis results for Border Hunter Student Group comparison.

Response Type	U.S. Army (n = 21)		Border Patrol (n = 17)		Interaction
	Pre-Training Mean	Post-Training Mean	Pre-Training Mean	Post-Training Mean	Statistical Significance
Descriptive	2.59	1.06	2.88	1.80	$p > .05$
Meaningful	2.24	3.51	1.76	2.63	$p > .05$
Terminology	0.31	1.36	0.08	0.98	$p > .05$

Content Analysis: Role Players - The content analysis on role player responses revealed results similar to

those observed for student responses. There was a significant decrease in descriptive information and a significant increase in meaningful information from pre- to post-Profiling responses. In addition, there was a significant increase in use of Combat Profiling terminology. The mean number of instances of each response type, pre- and post-Profiling, is displayed in Table 4, along with the one-way ANOVA results for pre- vs. post-Profiling differences in responses of each type.

Table 4. Content analysis results for Role Player pre- and post-Profiling responses in the Border Hunter course (N = 20).

Response Type	Pre-Training Group Mean	Post-Training Group Mean	Statistical Significance
Descriptive	3.63	1.95	$p < .05$
Meaningful	1.67	2.25	$p < .05$
Terminology	0.00	0.32	$p < .05$

Intelligence Value: Students - The one-way repeated measures ANOVA revealed that the rated intelligence value of the responses increased significantly from pre- to post-Profiling. Mean pre- and post-Profiling response ratings are displayed in Table 5, along with the results of the ANOVA.

Table 5. Results of pre- and post-Profiling intelligence value ratings for Border Hunter Student responses (N = 42).

Pre-Training Group Mean	Post-Training Group Mean	Statistical Significance
3.52	5.57	$p < .05$

The two-way mixed ANOVA revealed no statistically significant difference in rated intelligence value between responses of students in the two agencies. Mean pre- and post-Profiling response ratings for each group are displayed in Table 6, along with the results of the ANOVA.

Intelligence Value: Role Players - The one-way repeated measures ANOVA on role player responses revealed that the intelligence value of the information provided increased significantly from pre- to post-Profiling. Mean pre- and post-Profiling response ratings are displayed in Table 7, along with the results of the ANOVA. While the rated intelligence value of one role player's responses decreased from pre- to

post-Profiling, rated intelligence value increased for all other role players.

Table 6. Results of pre- and post-Profiling intelligence value ratings for Border Hunter Student Group comparison.

U.S. Army (n = 21)		Border Patrol (n = 17)		Statistical Significance
Pre- Training Group Mean	Post- Training Group Mean	Pre- Training Group Mean	Post- Training Group Mean	
3.76	5.91	3.29	5.29	p > .05

Table 7. Results of pre- and post-Profiling intelligence value ratings for Border Hunter Role Player responses (N = 20).

Pre-Training Group Mean	Post-Training Group Mean	Statistical Significance
3.82	4.87	p < .05

Combat Tracking Photo Vignette Assessment

For the Combat Tracking portion of the course, three photos, approved by Combat Tracking SMEs, were selected. The assessment method was identical to that used for Combat Profiling, except that for the Combat Tracking assessment each photo remained in view for the entire five minutes in which students wrote their responses. This is due to the nature of Tracking observations as compared to Profiling observations. Whereas Profiling observations often occur for dynamic situations, Tracking observations often involve static footprints or other spoor. Again, this assessment was conducted twice with the same photos; once prior to the start of the Combat Tracking portion of the course (which coincided with the start of the course), and once at the completion of the Combat Tracking portion of the course. A content analysis was conducted on responses to the Combat Tracking photos, as described for Combat Profiling.

The results of the content analysis for Combat Tracking were similar to those observed for Combat Profiling, although not quite as strong. The mean number of instances of each response type (Descriptive, Meaningful, Terminology), pre- and post-Tracking, is displayed in Table 8, along with the one-way ANOVA results for pre- vs. post-Tracking differences in responses of each type.

Table 8. Content analysis results for Student pre- and post-Tracking responses in the Border Hunter course.

Response Type	Pre- Training Group Mean	Post- Training Group Mean	Statistical Significance
Descriptive	2.15	1.89	p > .05
Meaningful	2.97	3.56	p < .05
Terminology	0.29	1.37	p < .05

DISCUSSION

To evaluate whether an individual’s skills to see, assess, and communicate a situation improved after training in Combat Profiling and Combat Tracking, a photo vignette assessment was developed by PSE. The written responses generated by students and role players were assessed for descriptive and meaningful content, Combat Hunter terminology, and intelligence value. In both the Combat Hunter Trainer Course and the Border Hunter course, there was a decrease in descriptive content accompanied by an increase in meaningful content, as well as increased use of Combat Hunter terminology. In addition, post-training responses were assessed by an experienced Intelligence Analyst as having greater intelligence value than pre-training responses.

These findings speak to an individual’s ability to see, assess, and communicate in two ways. The first is that the increased use of Combat Hunter terminology suggests that a common language had begun to develop over the course of training. This finding is significant because language and perception are intimately tied to understanding a situation and communicating information. Without a common language between the sender and recipient, there is great risk for misinterpretation of information, or for information to be disregarded because the message is not clear.

The other evidence of increased ability to see, assess, and communicate comes from the analysis of descriptive vs. meaningful content, as well as the assessment of intelligence value. Descriptive information content decreased post-training, whereas meaningful information content increased. This was accompanied by an increase in assessed intelligence value of the information. While descriptive information can be useful or important, it does not necessarily provide the “assess” component of see, assess, and communicate. The “assess” component imparts meaning to information through an interpretation of observations that takes into account their context and relevance. Such meaningful information is crucial for providing good intelligence and situation awareness to

adjacent forces and higher command, which do not have the benefit of baseline information about an area or situation that provides the basis for an assessment.

For example, meaningful information would inform adjacent troops and higher command not only that there are guards with weapons, but also that cues were detected signaling anger and discomfort, or that an area is devoid of threatening cues. Post-training responses to the photos provided better situation awareness through a more meaningful analysis of what was observed and of the perceived situation. Support for the interpretations that led to more meaningful information in the responses was provided by the concepts learned through Combat Hunter training. This information was more efficiently and effectively communicated through the use of Combat Hunter terminology. The post-training reports, as assessed by an experienced Intel Analyst, would help Intelligence (and other) personnel build better overall situation awareness, and help to develop further questions for follow ups. In turn, better intelligence overviews would be available to other Warfighters, providing a more accurate and complete picture of the situation in a given area for ongoing use.

A report by Major General Flynn and others provides a bigger-picture example of the value of see, assess, and communicate skills in describing the successes of the First Battalion, Fifth Marines during a recent deployment to Afghanistan. Among items of note is discussion of a shift in the focus of information exchanges with the Intelligence cell from “basic logistical matters” to a greater emphasis on understanding the local population. The report states that “As the picture sharpened, the focus honed in on identifying what the battalion called “anchor points” – local personalities and local grievances that, if skillfully exploited, could drive a wedge between insurgents and the greater population.” It was possible to collect this information because “By resisting the urge of many intelligence officers to hoard analysts at the command post, the S-2 and his deputy armed themselves with a network of human sensors who could debrief patrols, observe key personalities and terrain across the district, and – crucially – write down their findings. Because there were not enough analysts to send to every platoon, the infantry companies picked up the slack by assigning riflemen to collate and analyze information fulltime.” (Flynn, Pottinger, Batchelor, 2010).

The rifleman collecting this information is not a trained Intelligence Analyst and likely did not receive explicit instruction on what should be collected, how to analyze it, or how to report it. Combat Hunter training, while not creating a trained Intelligence analyst, provides a

standardized method, framework, and language that support an individual’s ability to effectively and efficiently see, assess, and communicate information. As illustrated by the results of the photo vignette assessment, even a small amount of training can lead to improved information content with greater intelligence value, as well as the development of a shared language for enhanced communication.

The Global War on Terrorism is being fought at the lowest levels, and the Warfighter on the ground is playing a vital role as not only a warrior but as a collector and sensor. The results reported here indicate that the type of training provided by Combat Hunter can equip Warfighters for success in those roles, which have taken on a new importance in the context of irregular warfare and COIN operations. The promising findings emphasize the need for further research on how to continue to develop and maximize the utility of this training, how to assess and ensure that it transfers to the operational environment, and how best to deliver this training across the US Joint Forces.

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