

Engineering Management

Field Project

**Training of the US Army Special Forces**

**Communication Sergeant (18E)**

By

James C. Sullivan

Fall Semester, 2012

An EMGT Field Project report submitted to the Engineering Management Program  
and the Faculty of the Graduate School of The University of Kansas  
in partial fulfillment of the requirements for the degree of  
Master's of Science

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Herb Tuttle  
Committee Chairperson

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Ray Dick  
Committee Member

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Terrance Sullivan  
Committee Member

Date accepted: \_\_\_\_\_

## Executive Summary

Special Forces are the best trained and equipped force in the world. The United States Army Special Forces are world renowned for producing some of the most skilled, elite Soldiers on the battlefield today. These specially trained and equipped Soldiers don't materialize on their own. Each Soldier goes through a rigorous and demanding training course to become one of the best. Although this training outpaces any in the regular Army, it is not without its own shortcomings.

Large amounts of time and resources go into training a Special Forces Soldier. Each man may spend anywhere from eighteen months to two-and-a-half years in training at the United States Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS, or SWCS for short) before they graduate and become green berets. This is certainly true for the Special Forces Communications Sergeant.

The goal at SWCS is to train Special Forces Communication Sergeants, or 18E's as they are commonly referred, that can operate on a Special Forces Team, or Operational Detachment Alphas (ODA), with minimal additional training. Training received by the 18E on special operations communication systems at SWCS is believed to not allow the 18E to arrive at his first ODA and execute his duties without substantial additional training. Because of the fast-paced changes of today's technology and the ever increasing information requirements from the front lines of Iraq, Afghanistan and elsewhere around the world, the training received by the 18E at SWCS must keep up with the times.

This field project took several approaches were taken to determine if in fact SWCS has fallen behind in training 18E's for duty. First, a close look was taken at the current syllabus, or Program of Instruction (POI) to find what communication systems and techniques are taught in the 18E course. Second, interviews were conducted with current members of ODA's who gave their impression of new 18E's who join their team shortly after graduation from SWCS. Third, a survey of three hundred ninety

one graduates from the fifteen most recent classes, dating back to 2010, were contacted via email and asked to voluntarily participate in a survey of their communication knowledge upon arrival at their first ODA. All individuals have had some time operating on an ODA as an 18E, Special Forces communicator. Seventy six of them responded to the survey.

The research clearly shows both the strengths and weaknesses of the 18E course in SWCS. It is very apparent that the 18E course is teaching some of the right things, however it is clear that there are many topics and systems used by 18E's on the ODA that are not being taught. The chart below breaks down the data of the top four systems used on an ODA and how they compare to the other systems on the teams. The systems are arranged in order of the most relied upon system (AN/PRC-148) to the fourth-most relied upon system (SDN-L) out of a total of twenty systems.

<u>SYSTEM</u>	<u>ABLE TO OPERATE</u>	<u>NOT ABLE TO OPERATE</u>	<u>STRENGTH/WEAKNESS</u>
AN/PRC-148	#1 (76/76)	#1 (0/76)	#1 Strength
AN/PSC-5	#2 (75/76)	#2 (0/76)	#2 Strength
AN/PRC-117G	#10 (40/76)	#10 (27/76)	#3 Weakness
SDN-L	#14 (9/76)	#20 (57/76)	#1 Weakness

Out of these top four systems most used on an ODA, a new 18E, recently graduated from SWCS's 18E course, will certainly be proficient with the top two communication systems; however just over half will be proficient on the third most relied upon system and more than ninety percent will be unable to operate the fourth most relied upon system.

Keeping up with the latest tactics, techniques, training, and equipment is essential for the United States Army if we are to remain the world's premier fighting force. Training of the Special Forces Communication Sergeant is no different. Identifying the shortfalls is only the beginning. Additional research is required to discover ways SWCS can keep up with the ODA's in terms of training and equipment so they can truly produce 18E's that can make a difference on today's battlefield.

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# Chapter 1 – Introduction

“Effective communications is absolutely critical to any organization”<sup>1</sup>. Not only is communication critical to any organization, it must be the thread that keeps a modern, global warfighting force together. Without effective communications, an army on today’s battlefield would not be able to execute missions to further the policies of its government or controlling body.

To this end, we must stay on the cutting edge of technology to give commanders better situational awareness. Remaining on the cutting edge includes ensuring our soldiers are trained on the systems they will use. In this paper I discuss the effects of increased communications on the battlefield and how the Special Forces train its communications sergeants to operate in this world of global, real-time networks.

## Importance of Well-Planned Communications

Today’s battlefield is more complex than ever before. Applying the appropriate amount of force at the right time in the right place to achieve the desired effects takes planning on a truly graduate level. Although planning for the myriad of kinetic actions, including infantry, artillery, attack aviation, and armor are extremely important, communications must be the string that ties it all together. “Therefore, communications system planning needs to be integrated and synchronized with operational planning. Through effective communications system planning, the Joint Force Commander (JFC) is able to apply capabilities at the critical time and place for mission success”<sup>2</sup>. Without well-planned and well-executed communications, any battle plan, no matter how intricately planned, will fall apart.

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<sup>1</sup> (Pickel 2008)

<sup>2</sup> (United States Department of Defense 2010)

## Communications and Warfare

Modern day communication systems are being improved faster than ever in the history of communications and this trend shows no signs of letting up. The continued development of superior communication systems is due in large part to the information revolution and the way we as people communicate with each other. “The fastest growing industries include “microelectronics, biotechnology, material sciences, telecommunications, civilian aircraft manufacturing, machine tools and robots, and computers (both hardware and software)”.<sup>3</sup> The development of these industries has the ability to change the dynamic of warfare faster than any other development.

Even at the start of the information revolution, armies have been harnessing the power of electronic communications to become more lethal on the battlefield. “These armies seek to leverage the power of the information revolution to reduce their manpower needs while simultaneously, exponentially increasing their effectiveness and efficiency”.<sup>4</sup> After World War I, the Germans initiated a comprehensive program to examine the lessons of the Great War. This program developed five concepts that they would base their new doctrine on and wage World War II with; a belief in maneuver, an offensive mindset, decentralize operations to the lowest level possible, officers and non-commissioned officers (NCO) must use their judgment on the battle field, and leaders at all levels must always display initiative.<sup>5</sup> Each of these concepts, and specifically the ability to decentralize operations, was greatly enhanced by the German’s ability to communicate across a chaotic battlefield.

Working decentralized across hundreds and even thousands of miles is exactly how Special Forces conduct their operations today. MAJ Stuart Farris said it best when interviewed after his third

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<sup>3</sup> (Hull 1997)

<sup>4</sup> (Hull 1997)

<sup>5</sup> (Murray, Armored Warfare; The British, French, and German Experiences 1996)

rotation to Afghanistan in 2005; “With Special Forces (SF), everyone is really dispersed over a large geographic range and we predominately perform very decentralized operations. We didn’t end up planning many large-scale operations at the company or battalion level. It was basically just Operational Detachment Alphas (ODAs) out there conducting independent actions”.<sup>6</sup>

To allow Special Forces to conduct the type of missions required of them, the communications infrastructure must be in place and able to support them. “Communications systems support to Army Special Operations Forces must be global, secure, mission-tailored, and jointly interoperable. Global communications support ensures that Army Special Operations Forces can communicate anywhere at any time using strategic capabilities to the maximum extent possible.”<sup>7</sup>

#### Negative Effects of Increased Communications on Warfare

There are possible downsides to the introduction of vast communication arrays that can reach out and touch individual Soldiers across the battlefield or around the globe. One issue that often rears its head in combat is the hunger of a higher headquarters for more and more real-time or near-real-time information. As mentioned earlier, the battlefield is chaotic and covered with the fog of war. It is a common belief that the more accurate, timely information commanders have at all levels the better decisions they can make and better plans they can create. This axiom is true, but there is a point of diminishing returns.

“Technology did not simplify war; it made it exponentially more complex”.<sup>8</sup> The greater access a higher headquarters at any level has to information, the harder it can be for them to make a decision. The slang phrase used in the military to describe this phenomenon is *paralysis by analysis*. This occurs when

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<sup>6</sup> (Farris 2007)

<sup>7</sup> (United States Department of the Army 2006)

<sup>8</sup> (Murray and Knox, The Future Behind Us 2001)

a unit gathers too much information and tries to use all of it to make the absolute best decision it can. In the end this paralyzes the unit from making any decision, which many times ends up being worse than making a timely bad decision. “Our biggest problems that Defense Department intelligence analysts face isn’t a lack of information – rather, it’s finding the right information buried in the sea of data that exists on DOD’s intelligence, surveillance and reconnaissance networks”.<sup>9</sup>

Before worldwide real-time and near-real-time access to ungodly amounts of information, commanders would gather just enough information, combine that information with their experience, knowledge, and “gut feeling”, then make a decision. The mantra used in the military to prevent *paralysis by analysis* and make timely decisions is *A 70% solution executed violently now is better than a 100% solution later.*

The second problem caused by the increase of communication systems that plagues the battlefield is exactly what the Germans were trying to prevent after World War I - greater centralized control. MAJ Stuart Farris observed this during his tour to Afghanistan with Special Forces in 2005 “By this rotation, we had secure internet protocol router network (SIPRNET) all the way down to the ODAs. We had secure voice over internet protocol (SVoIP) phones as well. The trend I saw was that the greater real-time communications capabilities we had, the more micromanaged things became. On my first rotation, higher [headquarters] didn’t have the capability to reach down and get real-time information from the teams. Now they do. With each rotation, we got more and more real-time technologies and communications abilities and the result was greater centralized control”.<sup>10</sup>

The information revolution is a probable cause of the phenomenon of greater centralized control and paralysis by analysis. The information revolution is fundamentally changing the way knowledge or

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<sup>9</sup> (Gallagher 2010)

<sup>10</sup> (Farris 2007)



intelligence is communicated and received, the heart of which is the ability to communicate and receive information in ways never before seen.<sup>11</sup> The information revolution is flattening organizational hierarchies and giving the ability to reach through many layers of bureaucracy to much higher levels. Not only does this increase the centralized control of operations, but by taking out the levels of hierarchies in the organization, they can no longer act as “filters” to get the pertinent information to higher and leave out the non-important minutia. Higher headquarters ends up with so much information it becomes next to impossible to sort through it all and gather necessary information for decision making or future planning.

### Mission of United States Army Special Forces

To understand how the training of the communications sergeant on a Special Forces team integrates into the missions they perform, we must first understand the seven primary missions of Special Forces.

SF conducts seven different and unique core missions; Unconventional Warfare, Foreign Internal Defense, Direct Action, Special Reconnaissance, Counter Terrorism, Information Operations, and Counter Proliferation.<sup>12</sup>

***Unconventional Warfare (UW)*** - UW is at the core of seven principal SF tasks. UW capabilities provide the method and skill sets by which all other SF missions are accomplished. SF are specifically organized, trained, and equipped for the conduct of UW. SF are regionally oriented, language-qualified, and specifically trained to conduct UW against hostile nation States and non-State entities to achieve U.S. goals.

***Foreign Internal Defense (FID)*** - SF support a U.S. FID effort predominantly by training, advising, and, if necessary, accompanying HN personnel. This task often uses all the skill sets of an SF operational

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<sup>11</sup> (Hull 1997)

<sup>12</sup> (United States Department of the Army 2006)

element, including tactical skills; advanced medical skills; demolitions, weapons, weapon systems, and communications equipment skills; and basic Psychological Operations (PSYOP) and Civil Affairs (CA) skills. SF use these skills to develop in Host Nation (HN) personnel capabilities to be a self-sufficient force.

***Direct Action (DA)*** - SF can operate in either single-detachment or multi-detachment strength for unilateral DA tasks. SF design DA operations to achieve specific, well-defined, and often sensitive results. SF DA operations often include the use of indigenous or surrogate personnel to facilitate operations security, force protection, target acquisition, and target destruction.

***Special Reconnaissance (SR)*** - SF are specifically trained to perform SR. SF SR operations include, but are not limited to, regional survey teams in support of the Theater Special Operations Command (TSOC); SR in hostile, denied, or politically sensitive environments to collect or verify information of strategic or operational significance for the supported commander; SR support to a conventional force; and SR conducted to facilitate future operations. SF possess limited Signals Intelligence (SIGINT) and chemical reconnaissance assets that can complement the SR mission.

***Counter-Terrorism (CT)*** - All SF units can support CT operations. Specially organized, trained, and equipped SF units are designated in-theater contingency plans to participate in CT operations. The Geographical Combatant Command (GCC) uses SF units with other forces as needed.

***Information Operations (IO)*** - SF provide limited support to IO. The task could include electronic warfare (EW) support, computer network attack, and support to target planning.

***Counter Proliferation (CP)*** - Elements of SF perform CP of Weapons of Mass Destruction (WMD) as directed. The task could include locating, identifying, seizing, destroying, rendering safe, transporting, capturing, or recovering WMD.

## Organization of Special Forces

The United States Army Special Forces is made up of five active duty and two National Guard Groups. Each active duty Group is regionally aligned to an area of the world and conducts missions in that part, however SF soldiers are able to operate anywhere they are needed. The two National Guard SF Groups are not aligned to any geographical area and are used throughout the globe as needed.

**Unit:** 1<sup>st</sup> Special Forces Group (Airborne)

**Area of Responsibility:** US Pacific Command (USPACOM)

**Permanent Base:** Fort Lewis, WA / Okinawa, Japan

**Unit:** 3<sup>rd</sup> Special Forces Group (Airborne)

**Area of Responsibility:** US Africa Command (USAFRICOM)

**Permanent Base:** Fort Bragg, NC

**Unit:** 7<sup>th</sup> Special Forces Group (Airborne)

**Area of Responsibility:** US Southern Command (USSOUTHCOM)

**Permanent Base:** Elgin Air Force Base, FL

**Unit:** 5<sup>th</sup> Special Forces Group (Airborne)

**Area of Responsibility:** US Pacific Command (USPACOM)

**Permanent Base:** Fort Campbell, KY

**Unit:** 10<sup>th</sup> Special Forces Group (Airborne)

**Area of Responsibility:** US European Command (USEUCOM)

**Permanent Base:** Fort Carson, CO / Bad Tolz, Germany

**Unit:** 19<sup>th</sup> Special Forces Group (Airborne) (National Guard)

**Area of Responsibility:** N/A

**Permanent Base:** HQ in Draper, UT with detachments in WA, WV, OH, RI, CO, and CA

**Unit:** 20<sup>th</sup> Special Forces Group (Airborne) (National Guard)

**Area of Responsibility:** N/A

**Permanent Base:** Birmingham, AL with detachments in MI, FL, NC, IL, MD, and MA

The building block of a Special Forces Group is the Operational Detachment Alpha Teams, or ODA's. An ODA is made up of twelve Soldiers, each with his own set of skills and expertise and categorized by a two-digit (three-digit for warrant officers) and one-letter Military Occupational Specialty (MOS) designator. Each ODA consists of two of each type of Soldier; two officers (one commissioned and one warrant), two operations sergeants, two weapons sergeants, two engineer sergeants, two medical sergeants and two communication sergeants.<sup>13</sup>

**18A – ODA Team Leader** – Special Forces officers plan, coordinate, direct and participate in Special Forces units performing the core tasks of Unconventional Warfare, Foreign Internal Defense, Direct Action, Special Reconnaissance, Counter-Terrorism, Counter-Proliferation, and Support to Information Operations in all operational environments. A Special Forces captain commands a Special Forces Operational Detachment-A (SFOD-A).<sup>14</sup>

**180A – Assistant Detachment Commander** –

- Command an Operational Detachment Alpha(ODA)
- Commands a task organized operational element as needed
- Commands half the ODA during split team operations
- Provides advise in the areas of Special Forces operational administration, intelligence, operations, logistics, civil-military affairs, and psychological operations
- Develops, maintains, and continually updates operational plans and targeting data for deployable elements
- Assists in the management of pre-deployment planning, training, and development of operational detachments

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<sup>13</sup> (United States Department of the Army 2006)

<sup>14</sup> (United States Department of the Army 2007)

- Develops, directs, supervises, and conducts training for U.S. and foreign military/paramilitary forces
- Provides advice on all aspects of Special Forces operations and specialized training to include: Military Free Fall (MFF), Combat Dive, Special Operations Training (SOT), Survival Evasion Resistance Escape (SERE), Special Forces Target Interdiction (SOTI), Special Forces Advanced Reconnaissance Target Analysis and Exploitation (SFARTAEC), Advanced Special Operations Techniques (ASOT), Psychological Operations (PSYOP), and Civil Affairs (CA)
- Provides advice on the regional considerations of Special Forces operations in the operational environment based upon cultural awareness, regional ability and linguistic skills.<sup>15</sup>

**18Z – Operations (Team) Sergeant** – The Special Forces Senior Sergeant supervises, leads and serves as a member of an Operational Detachment of a Special Forces unit. Supervises all administrative, operational, and training requirements of a Special Forces Operational Detachment Alpha (ODA). Leads all aspects of mission preparation (isolation) and execution.<sup>16</sup>

**18F – Assistant Operations and Intelligence Sergeant** – Special Forces intelligence sergeant prepares intelligence estimate (analysis) during mission planning and preparation (isolation); employs conventional and unconventional techniques in intelligence collection and processing during unilateral, combined, coalition, joint, interagency, and multi-national operations; plans, organizes, trains, advises, assists, and supervises indigenous and allied personnel on collection and processing of intelligence information; establishes intelligence nets, capable of establishing personnel identification through fingerprinting and other means; processes prisoners of war; establishes security plan and performs security duties; maintains

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<sup>15</sup> (United States Department of the Army 2007)

<sup>16</sup> (United States Department of the Army 2007)

all classified documents in the operational area and establishes destruction and evacuation plans; provides area specialist assistance to U.S. forces and outside agencies.<sup>17</sup>

**18B – Weapons Sergeant** – Special Forces Weapons Sergeant employs U.S. and foreign small arms, light and heavy crew served weapons, anti-aircraft and anti-armor weapons. Controls emplacement and supervises employment during tactical offensive and defensive combat operations; reads, interprets, and prepares combat orders; coordinates organic and supporting fire power, performs standard and non-standard air delivery, airborne operations, and air-ground operations; ensures collection and proper reporting of intelligence data to unit and staff sections.<sup>18</sup>

**18C – Engineer Sergeant** – The Special Forces engineer sergeant employs offensive/defensive combat engineer capabilities; performs and instructs in demolitions, explosives, improvised munitions, U.S. and foreign landmines, mine/countermine operations, construction, field fortification, bridging, rigging, electrical wiring, reconnaissance, target analysis and civil action projects; instructs and performs land and water navigation duties by interpreting maps, overlays, photos, charts and using standard and nonstandard navigational techniques and equipment; proficient in sabotage operations with standard, nonstandard, and improvised munitions and explosives; plans, prepares and conducts the target analysis portion of the area study; collects and disseminates engineer intelligence data; prepares and reviews target folders; prepares and reviews target analysis folders.<sup>19</sup>

**18D – Medical Sergeant** – Medical sergeants specialize in trauma management, infectious diseases, cardiac life support and surgical procedures, with a basic understanding of veterinary and dental medicine. Both general healthcare and emergency healthcare are stressed in training. Medical sergeants

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<sup>17</sup> (United States Department of the Army 2007)

<sup>18</sup> (United States Department of the Army 2007)

<sup>19</sup> (United States Department of the Army 2007)

provide emergency, routine and long-term medical care for detachment members and associated allied members and host-nation personnel. They establish field medical facilities to support unconventional-warfare operations. They provide veterinary care. They prepare the medical portion of area studies, briefbacks and operation plans and orders. Soldiers selected for MOS 18D attend 250 days of advanced medical training. Additionally, they spend two months of the year on a trauma rotation in hospital emergency rooms. The medical-training phase includes a nationally accredited emergency medical technician paramedic program. They can recruit, organize, train and advise or command indigenous combat forces up to company size.<sup>20</sup>

**18E – Communication Specialist** - Special Forces communications sergeant provides conventional and unconventional tactical communications support during unilateral, combined, coalition, joint, interagency and multinational operations; employs ODA communications equipment to include HF, VHF, and UHF/SHF radio communications systems to transmit and receive radio messages in voice, continuous wave, and burst radio nets; trains, advises, and supervises the installation and operation of radios, communications procedures, facsimile, wire communications and computer networks; plans, manages, and advises the commander on C4I architecture, communications matters, and communications security up to Special Forces Operating Base (SFOB) level; prepares communications plan and annexes; prepares Signal Operations Instructions/Communication Electronics Operations Instructions (SOI/CEOI); serves as Communications-Electronics (C-E) NCOIC for FOB communications.<sup>21</sup>

Each one of these Soldiers commit themselves to 18 months to 2 ½ years to learn their craft at the United States Army John F. Kennedy Special Warfare Center and School (USAJFKSWCS, commonly pronounced “swick” and commonly written “SWCS”). There are five phases of the training "pipeline" to become a SF Soldier. Most of the phases each Soldier goes through to become an ODA member are the

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<sup>20</sup> (US Army John F. Kennedy Special Warfare Center and School 2012)

<sup>21</sup> (United States Department of the Army 2007)

same. However, during phase II of the pipeline each Soldier attends training specific to their MOS. I will be concentrating on the MOS training of the 18E, Communications Sergeant.

### The 18E Communications Sergeant

The nature of the SF missions dictates they use communication systems that can reach anywhere in the world. When an ODA is operating in an austere environment, it is the sole job of the 18E to ensure constant, reliable communications are kept with higher headquarters. To have a true appreciation for the scope of duties of an 18E, the Department of the Army Pamphlet 600-25, U.S. Army Noncommissioned Officer Professional Development Guide outlines what he is responsible for: “Communications Sergeant 18E-SF (SSG/SFC) provides conventional and unconventional tactical communications support during unilateral, combined, coalition, joint, interagency and multinational operations; employs ODA communications equipment to include HF, VHF, and UHF/SHF radio communications systems to transmit and receive radio messages in voice, continuous wave, and burst radio nets; trains, advises, and supervises the installation and operation of radios, communications procedures, facsimile, wire communications and computer networks; plans, manages, and advises the commander on C4I architecture, communications matters, and communications security up to Special Forces Operating Base (SFOB) level; prepares communications plan and annexes; prepares Signal Operations Instructions/Communication Electronics Operations Instructions (SOI/CEOI); serves as Communications-Electronics (C-E) NCOIC for FOB communications”.<sup>22</sup>

The level of complexity of the responsibilities of the 18E, combined with the type of missions conducted by the SF ODA demand that the initial training received by the 18E at Special Warfare Center and School be tailored to meet the requirements of the ODA. Training received by the 18E on special operations communication systems at SWCS is believed to not allow the 18E to arrive at his first ODA and execute his duties without substantial additional training. Because of the fast-paced changes of

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<sup>22</sup> (United States Department of the Army 2008)



today's technology and the ever increasing information requirements from the front lines of Iraq, Afghanistan and elsewhere around the world, the training received by the 18E at USAJFKSWCS has fallen behind the times. Training on the fundamentals and theories of communications is taught at USAJFKSWCS, while training on much of the actual equipment the 18E will be expected to operate as a member of an ODA is left up to his first unit. This training shortfall reduces the effectiveness of the ODA and increases the amount of time an ODA requires to train up before becoming fully operational to deploy.

## Chapter 2 - Literature Review

Because military communications training in Special Forces is a highly specialized area, there has been little research conducted on this topic up to this point. In the past there have been years between when a new piece of communications equipment is first introduced to Special Forces and its mainstream acceptance and use by the SF Groups. This gave SWCS ample time to acquire the new technology and develop a training plan for it. In today's wartime environment, the speed of acquisition of new technology and fielding it to the force has increased to the point of SWCS not being able to keep up with what is being used on the ODA's. This relatively new phenomenon is not researched as well as it should be. The research that has been done mainly consists of Government briefings and light research conducted by SWCS into the redesign of the 18E course.

**Collection of Comments from SF Groups** – In September of 2011, the instruction development team at SWCS visited all five Active Duty SF Groups throughout the US Army. The purpose of this visit was to solicit comments from the Groups about what they thought about the Soldiers coming out of SWCS and what they would like to see in a graduate of the SWCS schoolhouse. This visit not only covered 18E's, but all MOS' in Special Forces. The result of these visits was comments on some documents with no analysis done.

This was a good first step in the right direction to figure out what SWCS can do to prepare graduates of the 18E course for life on an ODA, however, there are a few problems with it. First, as mentioned earlier, no analyses were conducted on the comments collected nor were there any trends identified in what the ODA's were saying. The instruction development team is trying to redesign the 18E course based on raw comments put together on several documents. The comments are free flowing text with no direction or focus on exactly what the team is trying to accomplish.

The second issue with this method is how the meeting between the instruction development team and the ODA's went. The members of the development team did not appear to be very open minded

when it came to suggestions on course improvement. Here is one comment from an ODA that sums up how the interaction in these meetings went: *"In my opinion this meeting seemed to accomplish nothing because the instructor already told us what the answer would be."*<sup>23</sup>

The third issue with this literature was that it did not cover 18E's who recently graduated from the 18E course. It concentrated on the leadership of the ODA and what they thought of new 18E's. When gathering data, all points of view should be taken into account, and this research fell short.

**SWCS Instructor Interview** – The final phase of the Special Forces Qualification Course, called Robin Sage, brings all of the MOS' together for one long field exercise before graduation. This exercise tests each student's particular skills in their specialty while working as a team. In October, 2011 the instructors for this final phase were asked to comment on what they saw as the strengths and weaknesses of each MOS.

Again, this is a good first step in identifying the changes that need to be made to the 18E course. Compiling a strength/weakness list will assist the 18E instructors in identifying the shortfalls of their students in the final field test. There are two main issues with this course of action, however. First, the real test doesn't occur in the schoolhouse during training, it occurs with the ODA's and while deployed. Second, the 18E's may perform very well using the equipment available to them while in training, but they will fall short when they arrive at their first ODA and encounter new technology they've never seen before.

**18E Course Redesign Briefings** – Based on the small amount of research conducted, the instruction development team designed several briefings to the SWCS Commander outlining what they thought should be done to redesign the 18E course to include costs in manpower and funding.

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<sup>23</sup> (Alphas 2011)

Because in-depth research was not conducted, these briefings are misleading. As an example, these briefings identify a High-Frequency radio, the AN/PRC-150, as a piece of equipment that currently cannot be taught in the course due to an insufficient numbers of radios and highlights the need to acquire more. In my research I asked each survey participant to identify the top four pieces of communications equipment that they use on their ODA and zero out of seventy-six identified the AN/PRC-150 as one of those. This certainly doesn't suggest that this radio should not be taught, however it does call for more analysis to be conducted before decisions are made.

## Chapter 3 - Area to be Investigated

Special Forces are the best trained and equipped force in the world. The United States Army Special Forces are world renowned for producing some of the most skilled, elite Soldiers on the battlefield today. These specially trained and equipped Soldiers don't materialize on their own. Each Soldier goes through a rigorous and demanding training course to become one of the best. Although this training outpaces any in the regular Army, it is not without its own shortcomings.

Due to the positive and negative impacts of communications on the battlefield and the nature of the missions the ODA's conduct, the SF Communications Sergeants are required to be knowledgeable on their state-of-the-art equipment and up-to-date on current communication techniques. To determine if the 18E course at the USAJFKSWCS graduates 18E SF Soldiers who meet the requirements of the ODA's, three areas were investigated: the current curriculum was examined; current members of ODA's were interviewed; and a survey was conducted of recent graduates of the 18E course.

### Current 18E Program of Instruction (POI)

To determine if the 18E course is producing quality graduates, the POI, or course curriculum, must be outlined. The current instruction being taught will give an idea of what the graduates are capable of performing upon arrival at their first ODA with no additional training.

The 18E Special Forces Communications Sergeant course is taught by military and civilian members of E Company, 1<sup>st</sup> Battalion, 1<sup>st</sup> Special Warfare Training Group (Airborne), US Army John F. Kennedy Special Warfare Center and School. E Co.'s published mission states: "E/1/1 develops Soldiers and NCOs to successfully execute their duties on an SFOD-A by providing training and instruction in SF common tasks, warrior skills, and 18E tasks to Skill Level III standards".<sup>24</sup> The desired endstate is to

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<sup>24</sup> (United States Army John F. Kennedy Special Warfare Center and School 2012)

produce 18E Soldiers that can operate as Communications Sergeants on an ODA upon graduation from the course.

The current 18E course curriculum, or Program of Instruction (POI), is fourteen weeks long and consists of classroom instruction, hands-on practical exercises, and written and hands on tests and evaluations of the students' communications knowledge. The course culminates in an evaluated field training exercise called "MAX GAIN" where students must demonstrate their proficiency in conducting secure voice and data communications on both High Frequency (HF) and Satellite Communications (SATCOM) in a tactical environment<sup>25</sup>.

Listed below is the breakdown of the fourteen week course and what topics comprise each week, how long is spent on each topic, and what the student is evaluated on.

**Weeks 1-2: Computer Applications & SDN-L(Vx) (84.3 hours)**

Communications Orientation (1 hr)

Computer Applications (47.1 hrs)

SDN-L(Vx) (32 hrs)

Exam 1 (4.2 hrs):

Written – 50 Question one-hour multiple choice examination that evaluates the learning objectives in Computer Applications

Equipment – Students will demonstrate proficiency at initializing a Personal Computer (PC), connecting a PC to a network, and printing a document in the network.

**Week 3: Communications Procedures (26.2 hrs)**

Basic Radio Theory (2 hrs)

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<sup>25</sup> (Mcdowell 2012)

Basic Electricity (3 hrs)

Radio Telephone Operator (RTO) Procedures (2 hrs)

Special Forces Signal Operating Instruction (SOI) Signal Audio Visual Service Supplement (SAVSERSUP 6) (2 hrs)

Communications Security (COMSEC) (7 hrs)

Power Applications (8.2 hrs)

Information Operations / Electronic Warfare (IO/EW) (2 hrs)

**Weeks 4-5: Radios Common (127.8 hrs)**

Secure Systems (23.8 hrs)

Radios Common to Army Units (40.7 hrs)

Vehicle Communication Systems (32.2 hrs)

Force XXI Battle Command Brigade and Below/Blue Force Tracker (FBCB2/BFT) (24.1 hrs)

Exam 2 (7 hrs):

Written – 50 Question one-hour multiple choice examination that evaluates student understanding of the concepts and principles of basic radio theory, SAV SER SUP 6, COMSEC, Secure Systems, and radios common to the Army.

Equipment (AN/PRC-119F) – 15 minute hands-on exam evaluates student proficiency at performing set up procedures, initiating contact with a Net Control Station (NCS), using proper radio procedures and perform shutdown procedures for the AN/PRC-119F radio system.

Equipment (AN/PRC-148) – 15 minute hands-on exam evaluates the students proficiency at performing setup procedures, initiating contact with a Net Control Station (NCS), using proper radio procedures and perform shutdown procedures for the AN/PRC-148 radio system.

**Weeks 6-8: Satellite Communications (SATCOM) (112.4 hrs)**

Introduction to SATCOM (9 hrs)

AN/PRC-117G (40.5 hrs)

AN/PSC-5C (15 hrs)

AN/PSC-5D (15.7 hrs)

Demand Assigned Multiple Access (DAMA) (25.2 hrs)

Exam 3 (7 hrs):

Written – 50 Question one-hour multiple choice examination that evaluates student understanding of the concepts and principles of satellite communications.

Equipment (AN/PSC-5D) – 20 minute hands-on exam evaluates student proficiency at performing set up procedures, initiating contact with a Net Control Station (NCS), using proper radio procedures and perform shutdown procedures for the AN/PSC-5D radio system.

Equipment (AN/PRC-117G) – 30 minute hands-on exam evaluates the students proficiency at performing setup procedures, initiating contact with a Net Control Station (NCS), using proper radio procedures and perform shutdown procedures for the AN/PRC-117G radio system.

**Week 9: Communications Planning (15 hrs)**

Field Maintenance (4 hrs)

Transmission Site Selection (1 hr)

Duties and Responsibilities of Communications Sergeant (3 hrs)

Introduction to Planning (4 hrs)

Signal Support in SF Group (3 hrs)



## **Week 10: High Frequency Communications (71.1 hrs)**

Antenna Theory & Radio Wave Propagation (8 hrs)

Selected Antennas (24 hrs)

AN/PRC-137 (32.1 hrs)

Exam 4 (7 hrs):

Written – 50 Question one-hour multiple choice examination that evaluates student understanding of the concepts and principles of antenna theory, selected antenna's, and Special Mission Radio Systems.

Equipment (AN/PRC-137) – 15 minute hands-on exam evaluates student proficiency at performing set up procedures, initiating contact with a Net Control Station (NCS), using proper radio procedures and perform shutdown procedures for the AN/PRC-137 radio system.

## **Weeks 11-12: Field Training Exercises – TREK and MAX GAIN (116.2 hrs)**

Exam:

Communications TREK: 7-hour performance based assessment where the students are placed in a field environment with a required individual equipment load. Students navigate between five different points. At each point there is a communications performance exam. The student is briefed at each station of the Action, Condition and Standard for that individual station. The following are the different stations tested: AN/PSC-5D, AN/PRC-119, AN/PRC-148, AN/PRC-137 and the AN/PRC-117G. Distance between stations is an average of 8.5 km.

MAX GAIN: This is a performance based assessment where the students will demonstrate their proficiency in conducting secure voice and data communications on both high-frequency (HF) and satellite communication (SATCOM) systems in a tactical environment.

### **Week 13: Combat Marksmanship**

No communications training occurs during this week.

### **Week 14: Tactical Vehicle Communications**

A hands-on familiarization of integrating communications equipment into tactical vehicles occurs during this week. This block of instruction is not tested or evaluated.

It is certainly not the intent of the 18E course to produce absolute experts in SF communications. Not only would the length of the course drastically increase, but there is a lot that cannot be learned in a classroom or training environment. This is the reason there are two 18E Communications Sergeants on an ODA. One is the "senior" 18E on the team and the other is the "junior" who will perfect his craft under the guidance of the "senior".

During the 52 weeks throughout the year there are always two classes being conducted for a total of eighteen classes. Nine times throughout the year, a third class overlaps the other two. For example, one class could be in the middle of the course and another at the end of the course when a third class starts up at the beginning. Currently there are a total of 31 personnel assigned to E Company to support the 18E course. This includes 22 instructors (11 – Noncommissioned Officers, 11 Government Civilians) and nine support personnel.

### Interviews with Current ODA Members

The next area to be investigated was the current members of the ODA's, specifically the senior 18E's on the ODA teams. The senior 18E's and other leaders are the ones that know what they are looking for from a Soldier that recently graduated from the 18E course at SWCS and can best determine if the training received by their junior 18E is sufficient.

From January to March, 2011 a committee of civilian instructors from SWCS traveled to each SF Group to meet with a handful of ODA team members to discuss what the Special Forces Qualification Course (SFQC) currently entails as a whole, and then more specifically for each MOS.

During the breakout-by-MOS sessions, the cadre from the 18E course met with senior 18E's currently serving on an ODA. The SWCS cadre first outlined the week-by-week schedule of the 18E course, explained the thought process behind each portion of the course, and discussed the length of the course. The floor was then opened up to the ODA members for their suggestions or improvements to the course. The freeform comments concerning the 18E course were compiled and reviewed by the 18E instructors for insights into how to best make changes to the course.

#### Survey of Recent 18E Course Graduates

The final area that was investigated were recent graduates of the 18E course. Recent graduates from the 18E course that are now operating on an ODA know best if the training they received prepared them to perform their duties. Three hundred ninety one graduates from the fifteen most recent classes, dating back to 2010, were contacted via email and asked to voluntarily participate in a survey of their communication knowledge. All individuals have had some time operating on an ODA as an 18E, Special Forces communicator.

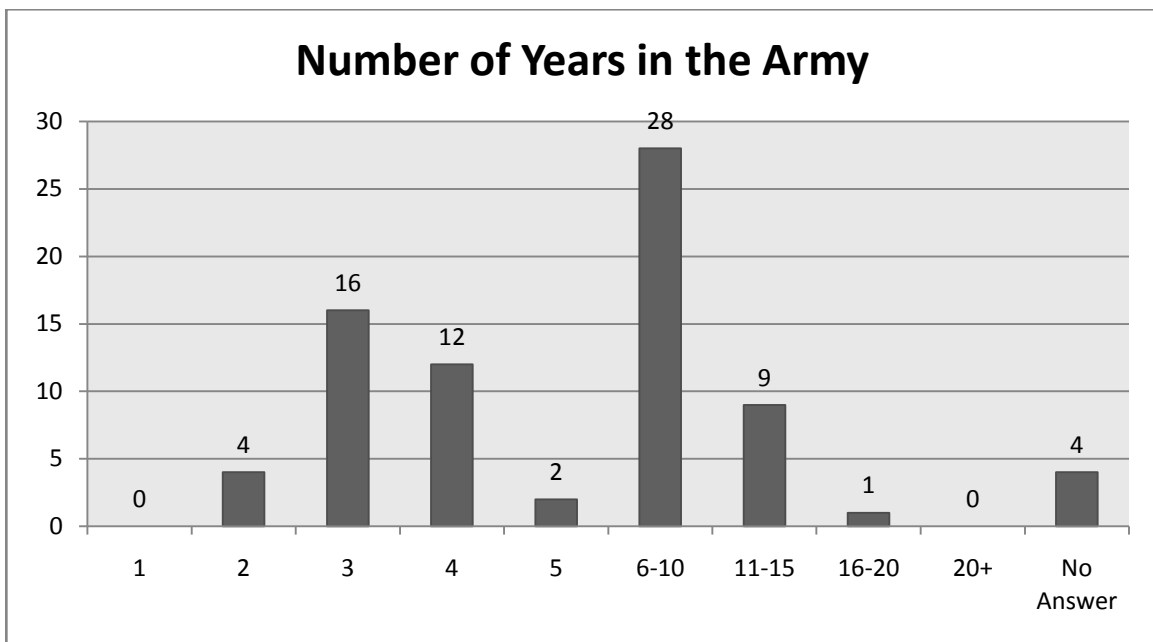
The survey determined the difference, if any, between what they learned in the 18E course and what was expected of them upon arrival at their first ODA. The survey consisted of eleven questions and various demographic questions.

## Chapter 4 – Findings

The best way to determine if the 18E course is properly preparing 18E Soldiers for their first assignment is to compile the answers from the survey and compare them with what is taught in the 18E course. Following each analysis are comments made by the respondents and observations made by current ODA members to further clarify the data's interpretation.

### Survey of Recent 18E Course Graduates

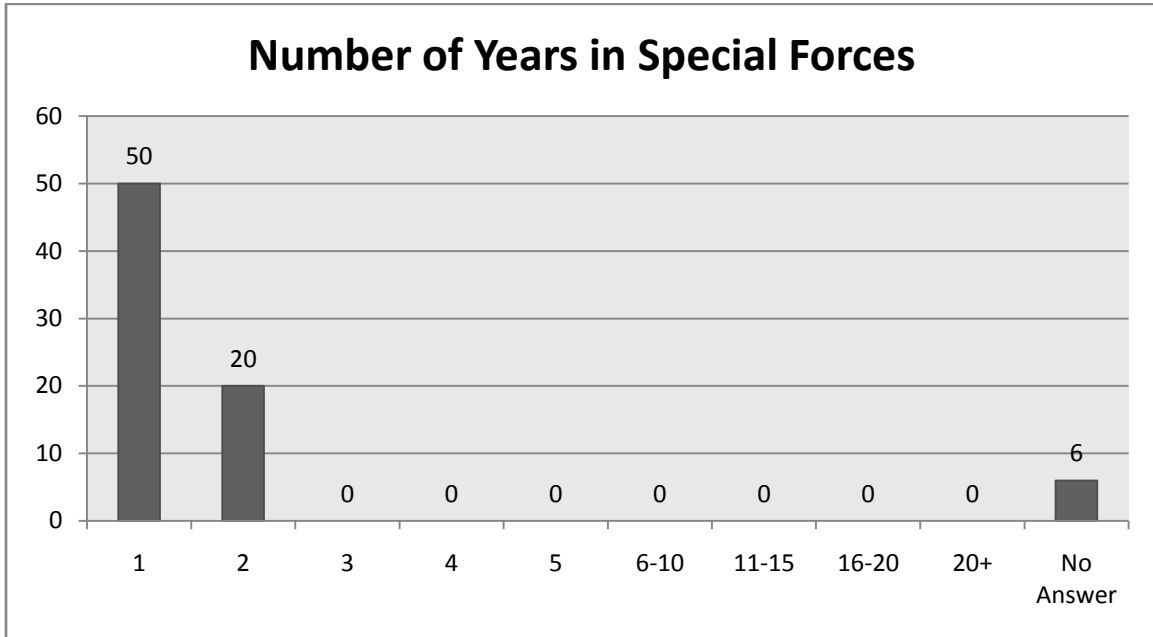
The demographics of the sampled population will give an idea of where the 18E Soldiers sampled fall in terms of number of years in the Army, number of years in Special Forces, and the year they graduated the Special Forces Qualification Course and became an 18E.



**Figure 1, Number of Years in the Army, James Sullivan, 2 October, 2012**

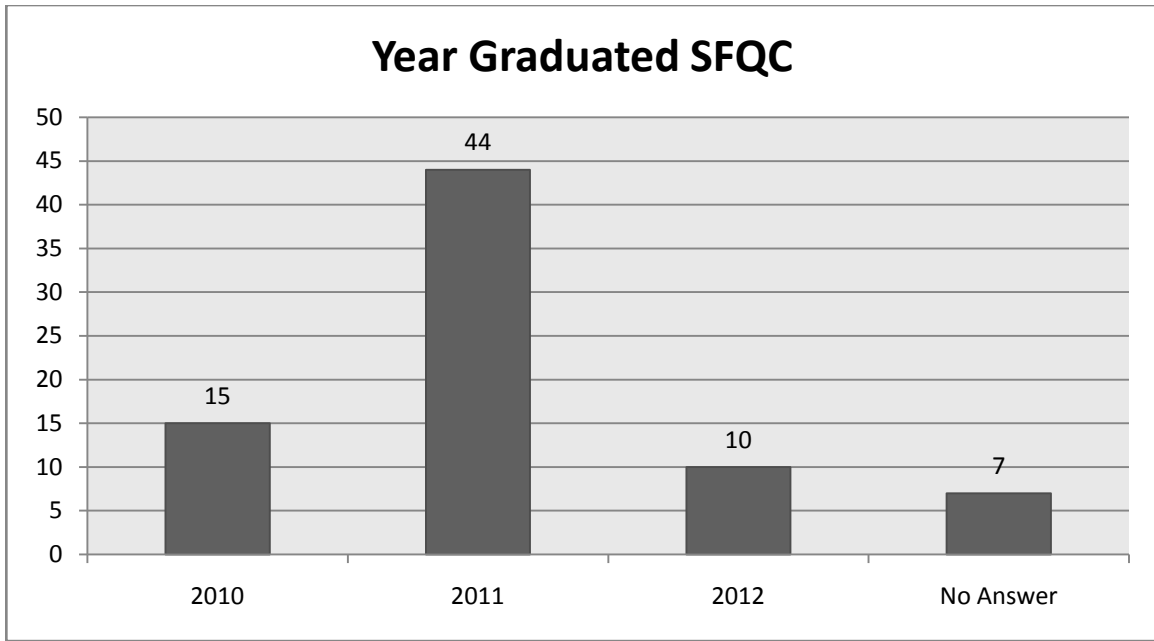
Figure 1 shows that the largest portion of our surveyed population has spent six to ten years in the Army. This tells us that most of the individuals have experience in non-SF units and have been in the Army long enough to know how to be a Soldier. Having this base of knowledge of how the Army

functions allows the respondent to focus on being an 18E SF Communicator instead of also figuring out how to be a Soldier. The second and third population size has spent three and four years in the Army, respectively. Over a twenty year career, these individuals are just starting out in the military with most of those years spent in training.



**Figure 2, Number of Years in Special Forces, James Sullivan, 2 October, 2012**

Although a majority of our sample population has spent three to ten years in the Army, figure 2 identifies a large portion of our sample has spent two years or less in Special Forces. This works well for our survey as it means that each respondent has either recently arrived at his first ODA and is testing out the skills and knowledge he obtained in the 18E course, or he still remembers his abilities as an SF Communicator when he first arrived.

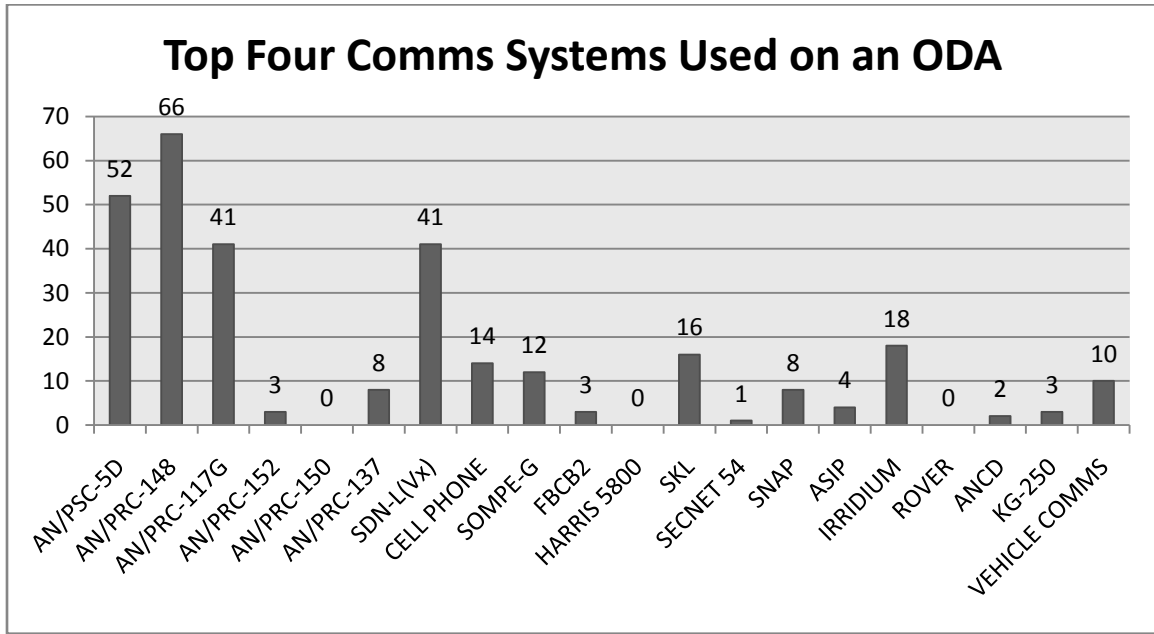


**Figure 3, Year Graduated SFQC, James Sullivan, 2 October, 2012**

It is apparent in figure 3 that all participants who responded to this question have graduated less than three years ago. This allows us to balance their answers to the questions against the current curriculum. Any respondents who graduated from the 18E course more than three years ago may not have been taught under the current POI.

QUESTION #1

1. What are the TOP FOUR (4) communication systems your team relies on (or relied on) while deployed? ("X" four only)



**Figure 4, Top Four Communication Systems Used on an ODA, James Sullivan, 2 October, 2012**

The data in figure 4 show the four pieces of communication equipment most relied on by the ODA is the AN/PSC-5D, AN/PRC-148, AN/PRC-117G and the SDN-L. The following chart outlines how many hours are spent in the 18E course on each piece of equipment and if the students are evaluated on it or not.

<u>Equipment</u>	<u>Hours Spent on Device in 18E Course</u>	<u>Evaluated</u>
AN/PSC-5D	30.7 (weeks 6-8)	Yes
AN/PRC-148	40.7 (weeks 3-4)	Yes
AN/PRC-117G	40.5 (weeks 6-8)	Yes
SDN-L	32.0 (weeks 1-2)	No

As identified by the chart above, three of the top four pieces of communication equipment used by the ODA are not only taught, but also tested in the 18E course. The SDN-L is the only device that is only taught for familiarization with no testing involved.

#### Comments From Survey Question #1

*"The AN-PSC5 is the most used radio after the 137. The 137 doesn't reliably send out messages quick enough for the time sensitive messages that is why the PSC-5 is relied on so often to quickly send messages. I would like to see a new HF radio that is more reliable to send messages with."*

*"We had success with the majority of the equipment. Mainly with the use of the SNAP for data and all traffic that falls under that category. As for voice we used mainly the PSC-5s in the TOC and a mix between PSC-5s and 117s in the trucks. Issue with the SNAP is it goes down often and at times can be unreliable. We ran a PSC-5 data as a backup."*

*"Only when we would use an SDN system would we have adequate ability to send the required reporting to higher. With the majority of reporting needing to be done on the red side an SDN is the only portable platform that really offers that capability."*

#### QUESTION #2

2. Based on your ODA's information requirements to higher HQ, are the communication systems you use (or used) on your ODA able to supply higher HQ with the amount of information they require (or required)?

a. **NO**, our communications systems are **UNABLE** to send the amount of information higher HQ requires

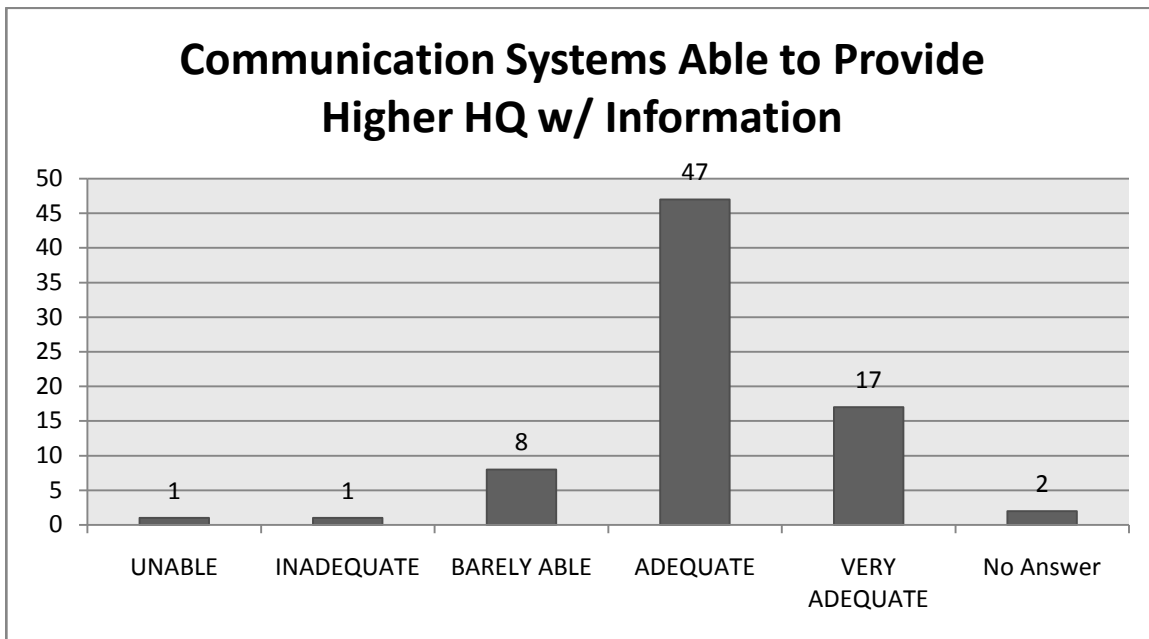
b. **NO**, our communications systems are **INADEQUATE** to send the amount of information higher HQ requires



c. **YES**, our communications systems are **BARELY ABLE** to send the amount of information higher HQ requires

d. **YES**, our communications systems are **ADEQUATE** to send the amount of information higher HQ requires

e. **YES**, our communications systems are **VERY ADEQUATE** to send the amount of information higher HQ requires



**Figure 5, Communication Systems Able to Provide Higher HQ w/ Information, James Sullivan, 2 October, 2012**

According to figure 5, only a very small portion of our sampled population think the systems that are used by the ODA are unable or inadequate to send the amount of information required to their higher headquarters. This statistic highlights the fact that the systems on the ODA are the correct ones to use for communication with their higher headquarters and that training in the 18E course should be tailored around these systems.

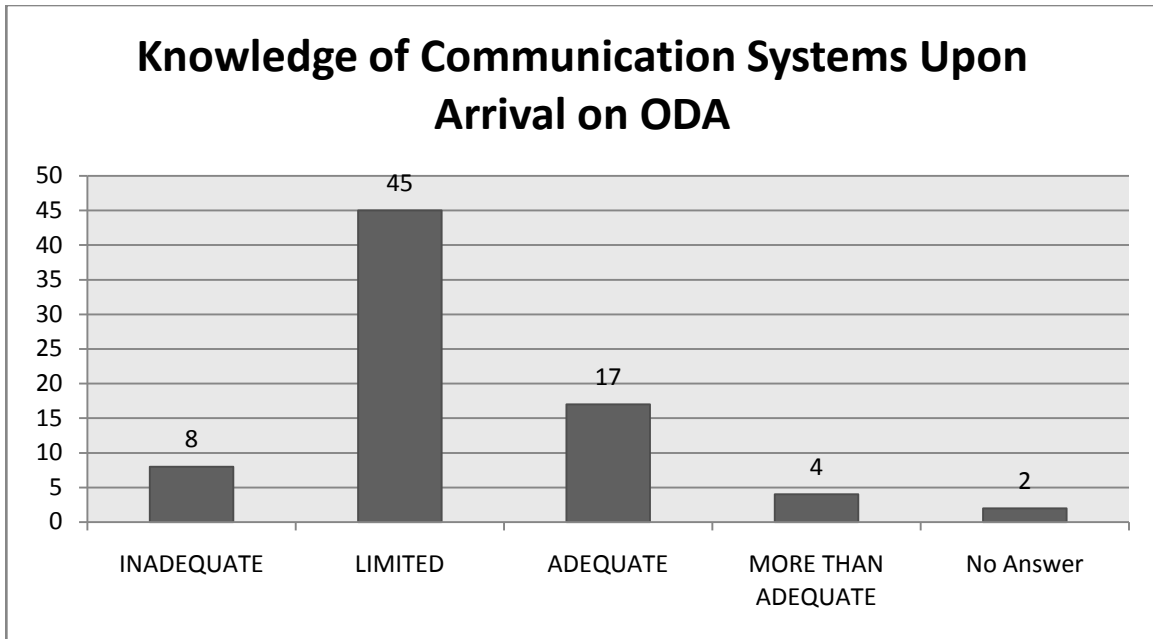
## Comments From Survey Question #2

*"Higher HQ has a lot of communication requirements placed on ODAs and AOBs depending upon which level you are assigned. For my rotation in Iraq I was at the AOB. If we did not have an SDN-M it would have been difficult to meet the requirements. I believe it would have been difficult for ODAs to meet the requirements to the AOBs if they did not have access to an SDN, BGAN, SNAPs, or some similar system. The problem becomes satellite space. We had at least one company on one SAT channel, so if we would have had to send traffic primarily using SAT DATA it would have been a nightmare due to channel congestion. The PRC-137 is another option, but is difficult to use and if given a time hack is unreliable."*

## QUESTION #3

3. How would you describe your knowledge on the communication systems used by your team upon arrival at your first ODA?

- a. I had an **INADEQUATE** communications knowledge base and required **A LOT** of additional communications training to operate on a team
- b. I had a **LIMITED** communications knowledge base and required **SOME** additional communications training to operate on a team
- c. I had an **ADEQUATE** communications knowledge base and required **NO** additional communications training to operate on a team
- d. I had a **MORE THAN ADEQUATE** communications knowledge base and usually trained the team on new systems or TTP's I learned in the 18E course



**Figure 6, Knowledge of Communication Systems Upon Arrival on ODA, James Sullivan, 2 October, 2012**

Figure 6 shows more than half of our sample population felt they had a limited knowledge base upon arrival at their first assignment on an ODA and required some additional training to operate successfully as a member of the team. This calls into question the skills a new 18E brings with him to an ODA. Although the 18E course is meant to produce graduates that still require training to become an expert in their field, they should arrive with an adequate knowledge base that allows them to function with no additional training.

#### Comments From Survey Question #3

*"More 117G Training!"*

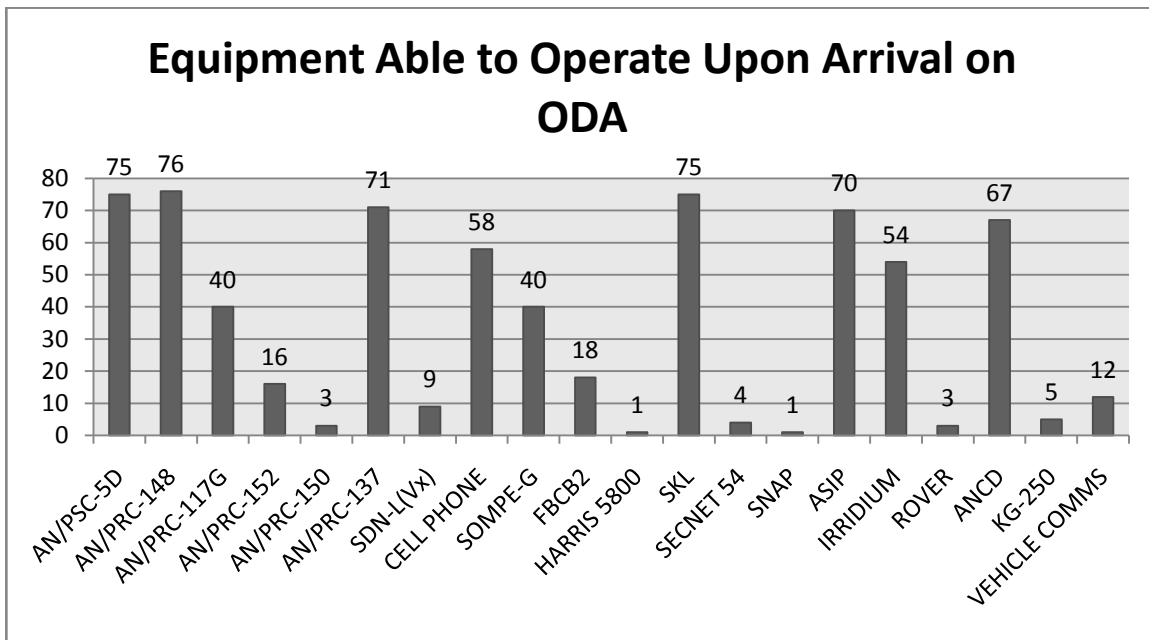
*"In the Echo course very little was taught at the time for using and setting up the SOMPE system even though we use it very regularly on my team. Granted it is more friendly now with the new updates, but when you fresh out and the team is waiting on you to set up the system to plan you can not help but wonder "Why did we spend only one hour in the course on something we use all the time?""*

*"When I arrived I knew nothing about the systems we use the most, SDN-L(vx) and SNAP or the vehicle communication systems in the MATV, RG and GMVs. Nor did I know anything about the SecNet54,*

KG250 or Wire Terminal devices which we use on many of our non-combat rotations. With respect to the vehicles, I really could have used some familiarity with the wiring systems and vehicle comms devices used and how they interface and connect to one another. We have had major problems with these here in Afghanistan and due to mission tempo have been unable to get the vehicles in for repair of the C4ISR systems. One last note, would have been immensely beneficial to have had at least some familiarization with the FBCB2 system. Had to have our striker enablers teach me how to use the system as I had never touched one before PMT."

**QUESTION #4**

4. What communications equipment used by your team were you ABLE to operate upon arrival to the team? ("X" all that apply)



**Figure 7, Equipment Able to Operate Upon Arrival on ODA, James Sullivan, 2 October, 2012**

The responses to this question, shown in figure 7, identify the skills that the 18E brings with him to the ODA. Out of a total of seventy-six responses to the survey, all could operate the AN/PRC-148 and seventy-five could operate the AN/PSC-5D and SKL. A large number of 18E's could also operate the AN/PRC-137, ASIP and ANCD.

Only two of the top four systems used by an ODA identified with question #1, the AN/PSC-5D and AN/PRC-148, received high marks in terms of new 18E's able to operate them. The other two of the top four systems, the AN/PRC-117G and the SDN-L(Vx), did not do well. Just over half of the respondents could operate the AN/PRC-117G upon arrival at their first ODA, while only nine could operate the SDN-L.

Although there are other systems that a majority of our sample population could operate, the 18E course is not spending enough time training and testing on two of the top four systems used on an ODA.

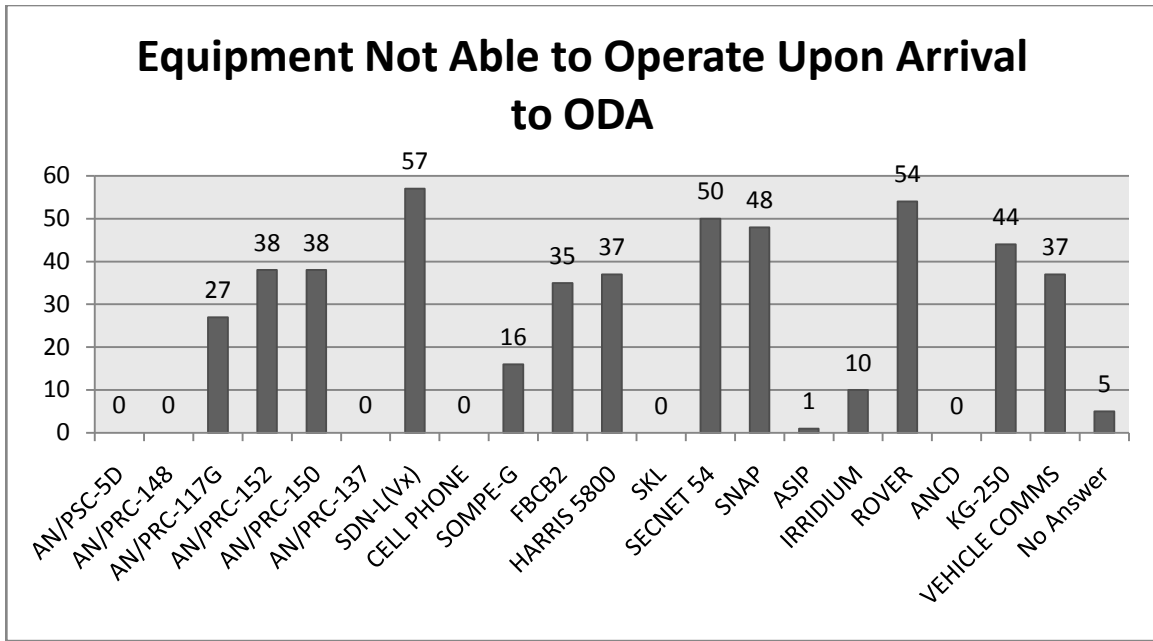
#### Comments From Survey Question #4

*"Had very limited training and knowledge in regards to the SOMPE-G and the SDN-L systems."*

*"My class was the 1st to have any training on the 117G which was just being introduced to the team when I arrived. I believe that if I were to arrive now with the amount of training on that radio system I would be behind the power curve. We did not receive any training on the SDN light or med. which is a major requirement for communications on our current mission."*

#### QUESTION #5

5. What communications equipment used by your team were you NOT ABLE to operate upon arrival to the team? ("X" all that apply)



**Figure 8, Equipment Not Able to Operate Upon Arrival to ODA, James Sullivan, 2 October, 2012**

Figure 8 identifies the pieces of equipment that fifty percent or more of the graduates from the 18E course could not operate upon arrival at their ODA are the AN/PRC-152, AN/PRC-150, SDN-L, SECRET 54, SNAP, ROVER and KG-250. The largest number of respondents identified the SDN-L(Vx) as a piece of equipment they could not operate.

Comments From Survey Question #5

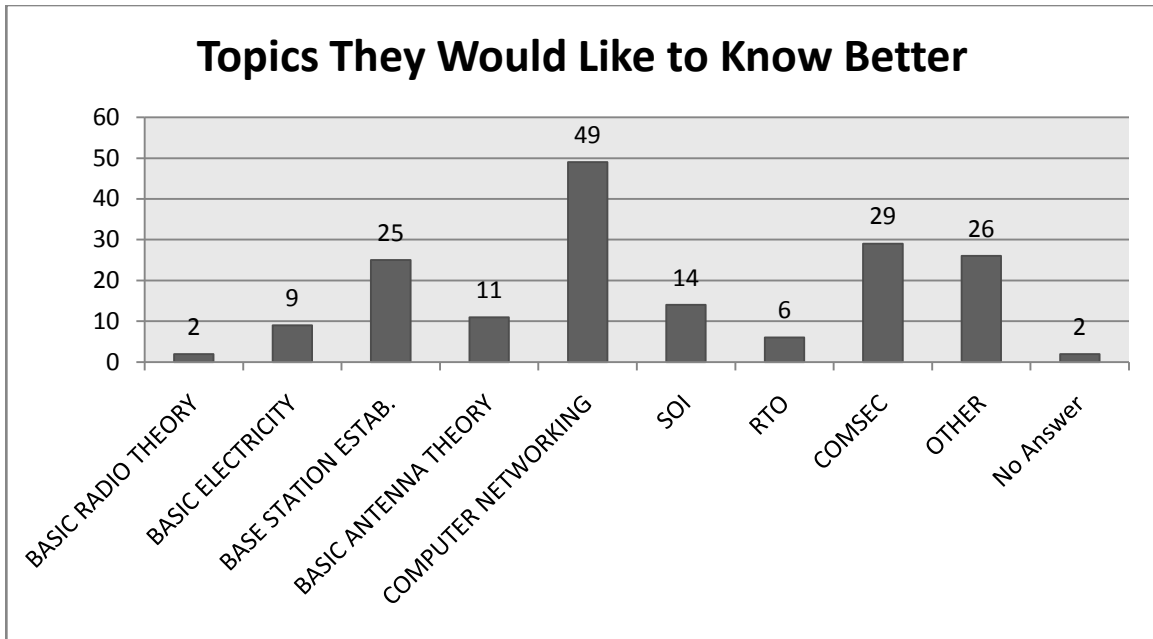
*"When I arrived down range my team was using the SDN Lite system and I had never encountered this before. It might be a good idea to cover that in the course as far as the setting up and rebooting that system. Along with trouble shooting."*

*"Only one day in the Echo course was dedicated to the SDN Light and the SOMPE kit. That is not an adequate amount of time. These two systems are the most-used on my ODA."*

QUESTION # 6

6. What topics would you have liked to know, or know better, prior to arrival on your team?

("X" all that apply)



**Figure 9, Topics They Would Like to Know Better, James Sullivan, 2 October, 2012**

More than fifty-percent of the respondents identified Computer Networking as a topic they would like to know better prior to arriving at their team, as displayed in figure 9. As modern communications moves away from voice and text information and more towards sending large amounts of data, computer networking is becoming a skill that is desired above all others.

Comments From Survey Question #6

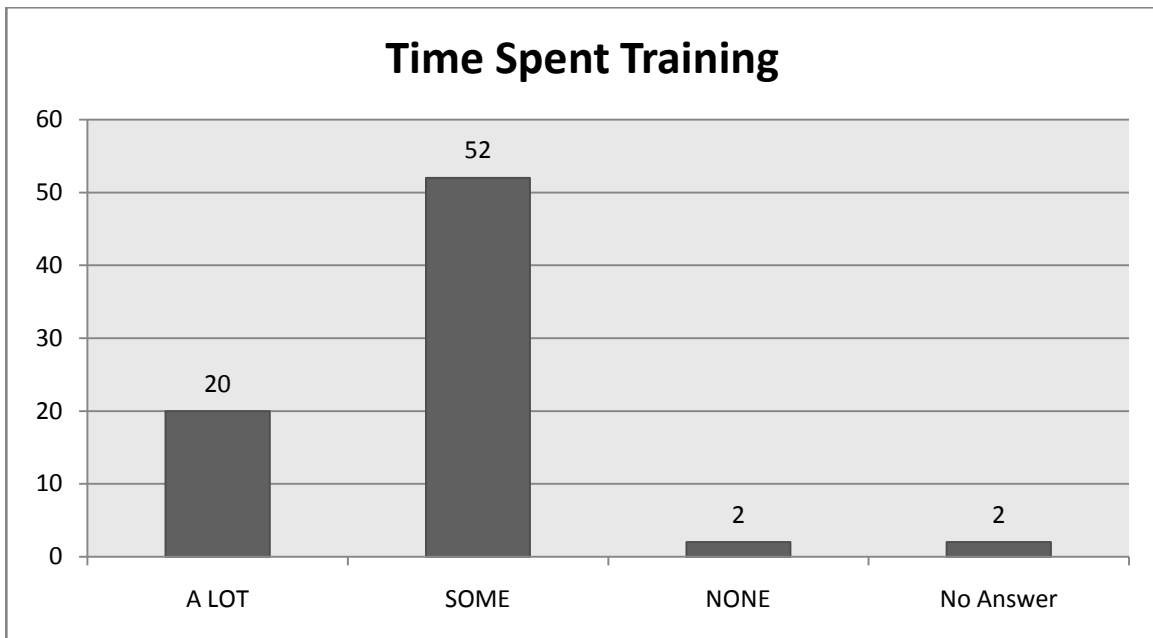
*"When I went through the course we trained on the 148, PSC 5, 119, and the 137. I came to group feeling confident on those platforms. When I was assigned to the B team and we deployed I found that 90% of my job required me to be skilled in computer networking. We only had a couple days of instruction on networking itself in the course which I feel is inadequate."*

*"The 2 day block of instruction on networking is not enough, and the weeklong block of instruction we had on computers (the inner workings/how to build one) is overkill. If something goes wrong with a computer usually it just gets replaced. I haven't had to fix any computer problems that required me opening the case and fixing something internally."*

QUESTION #7

7. How much time was spent training on systems and/or techniques that you feel you could have learned in the school house?

- a. A LOT
- b. SOME
- c. NONE



**Figure 10, Time Spent Training, James Sullivan, 2 October, 2012**

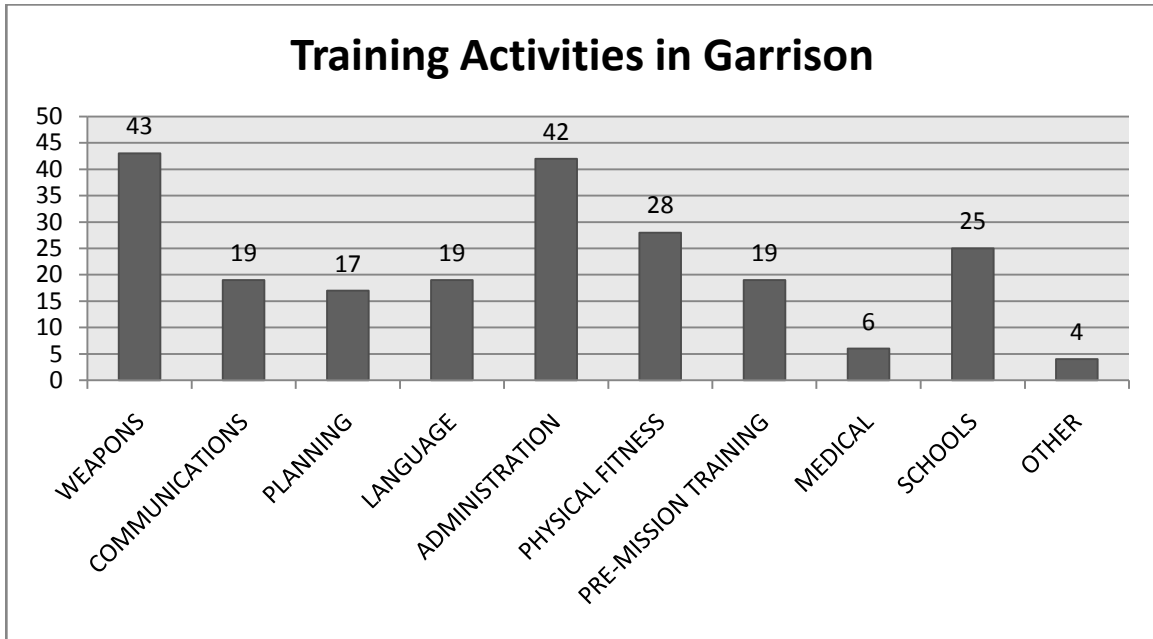
Figure 10 shows fifty-two out of the seventy-six respondents felt they spent some time training on communications that could have been taught in the 18E course and just over twenty-five percent of respondents felt they spent a lot of time.

As mentioned earlier, time is a precious resource in any organization, especially the military when working on a deployment timeline. Any time spent training on systems that could have been taught in the 18E course is time that could be spent training on advanced communications or other areas.



QUESTION #8

8. Please check the TOP THREE training activities you conducted while in garrison when you were on a team. ("X" three only)



**Figure 11, Training Activities in Garrison, James Sullivan, 2 October, 2012**

For an ODA, training time in garrison is filled with requirements from many areas that need attention prior to a deployment. The leadership of the ODA prioritizes these requirements based on their assessment of their team. According to figure 11, communication training in garrison ranks fifth among the top nine training activities conducted in garrison. In the priority list, communications training is tied with language and Pre-Mission Training (PMT), and falls below weapons training, physical fitness, schooling and administrative requirements.

Comments From Survey Question #8

*"Most of my time was spent prepping for deployment and at ranges."*

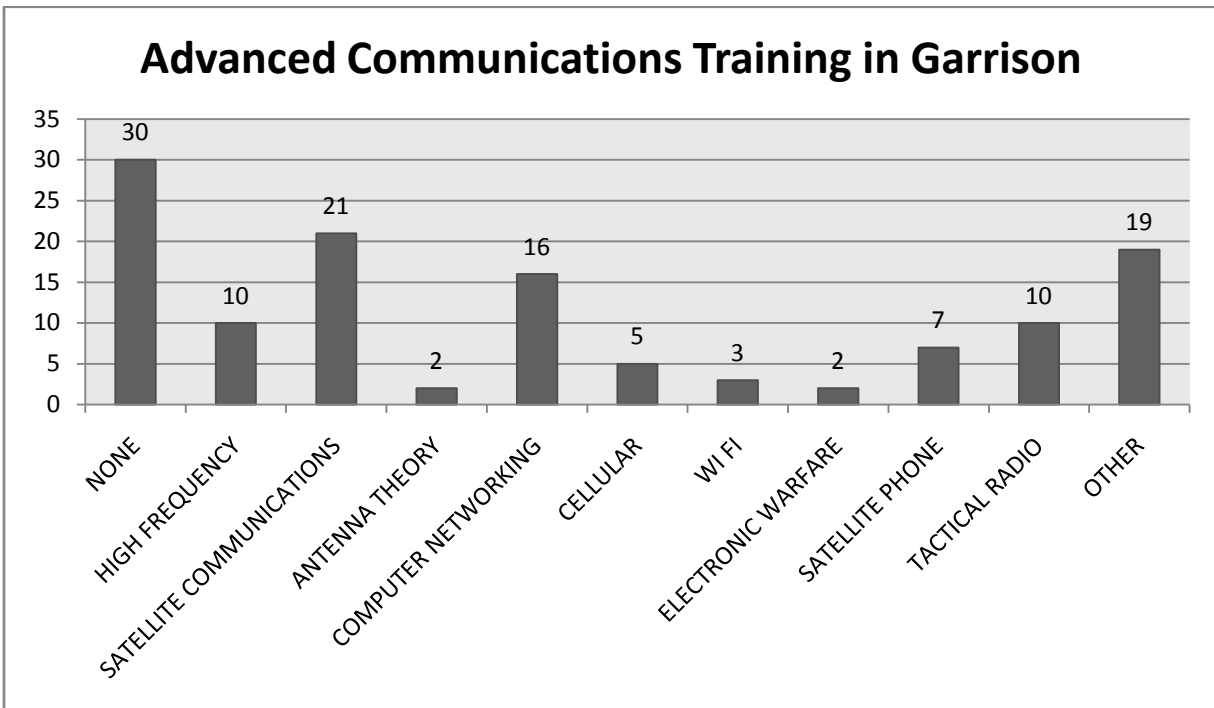
*"Administrative requirements bog down the training schedule. Training is always interrupted by meetings, classes, emails, et. Often times we don't find out about these till the day of."*

"Since I've been on the team, I have been doing pre-deployment type activities, ie getting work visas for the team, COMSEC and frequency requests and other administrative activities."

"I deployed with 2 months in garrison so most of that time was spent at PMT and ranges."

**QUESTION #9**

9. What types of advanced communication training (or schooling) did you participate in while in garrison when you were on a team? ("X" all that apply)



**Figure 12, Advanced Communications Training in Garrison, James Sullivan, 2 October, 2012**

Because of the limited training time available, it is not surprising to find that figure 12 shows just under half of the respondents conducted no advanced communications training while in garrison. It is also not surprising that the top communications training conducted in garrison is satellite communications, which includes the SDN-L(Vx). Thirteen out of the twenty-one written comments made after this question were concerning training they had to receive on the SDN-L(Vx).

Comments From Survey Question #9

*"Satellite systems training"*

*"BGAN, SDN-L/M/H"*

*"SDN-M class"*

*"SDN-L, Vehicle comms"*

*"SDN-L and SOMPE-G"*

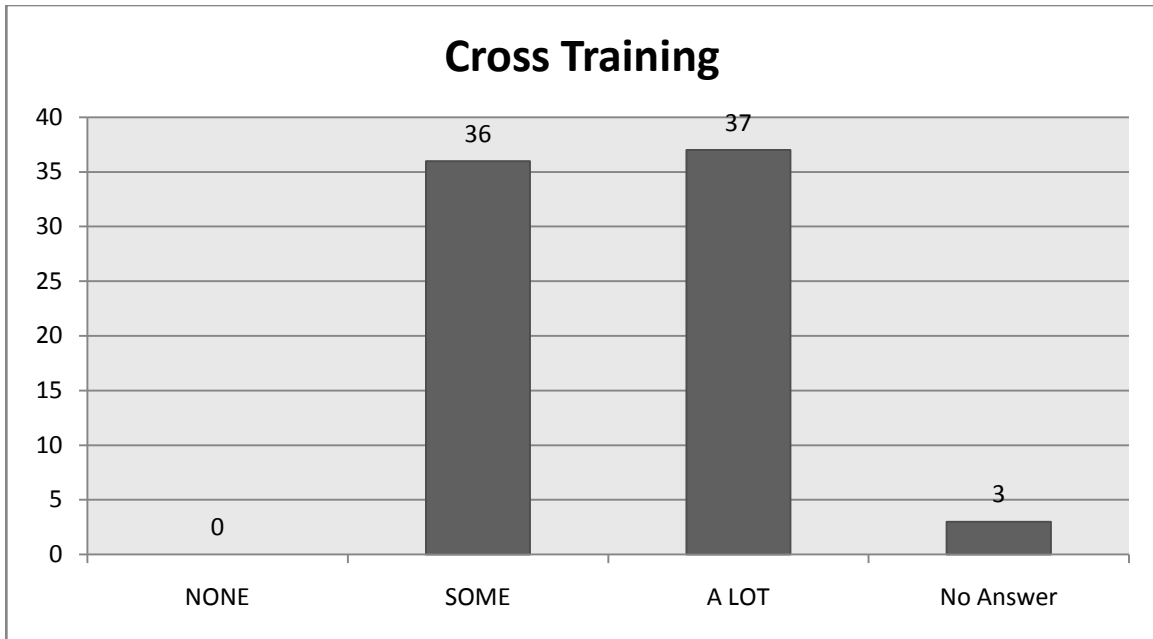
*"SDN-L (Vx) certification by L3 Communications"*

*"SDN-L (Vx), PDA-184, MOVER"*

QUESTION #10

10. Were you able to provide cross training on communication systems and TTP's upon graduation from SFQC?

- a. Upon graduation from SFQC, I could provide **NO** cross training to other team members on communication systems or TTP's
- b. Upon graduation from SFQC, I could provide **SOME** cross training to other team members on communication systems or TTP's
- c. Upon graduation from SFQC, I could provide **A LOT** of cross training to other team members on communication systems or TTP's



**Figure 13, Cross Training, James Sullivan, 2 October, 2012**

Figure 13 shows almost all of the respondents could provide some or a lot of cross training to other members on the ODA upon graduation from the SFQC. This is one of the most important statistics on the entire survey. On a team that consists of twelve men, of which only two are communications Soldiers, cross training becomes extremely important.

Comments From Survey Question #10

*"For those radio systems I received training on in the Q Course, I was well prepared to conduct cross-training. However, for the vast majority of data and other systems we use the far greater percentage of the time, I could not provide any cross training myself as I didn't know how to use them."*

*"I was able to conduct more training then most due to my background prior to the Q course, but even on systems I had learned while in the course I was able to provide team members with a basic understanding of the radio systems."*

QUESTION #11

11. In terms of communications, what were YOUR top three (3) strengths and three (3) weaknesses upon graduation from SFQC?

Listed below are the top three strengths and weaknesses identified by the respondents:

STRENGTHS

1. AN/PRC-148
2. AN/PSC-5D
3. ASIP

WEAKNESSES

1. SDN-L(Vx)
2. Computer Networking
3. AN/PRC-117G

The results of this question are not surprising and they follow the data of the other questions.

OPTIONAL ADDITIONAL COMMENTS

As mentioned earlier, this question allowed respondents to add any freeform comments they wanted to add. Only six respondents opted to add any additional comments to their survey. Below are three of the most relevant comments:

*“Since on a team I have not used the 137 once even though many hours were spent on this in the Q. I was only taught DAMA in the Q and have not used that once. I have found out that HARRIS equipment is way better than our 148s and PSC-5s and have come into contact with them many times since I graduated and wondered why I never got more hands on with a system that so much of the military uses. The Echo range week was great in getting me "up to speed" with my team when it came to shooting drills. Last but not least, if your not doing it now, start teaching these guys BFT and basics on how to wire up a vehicle with multiple platforms.”*

*“Max Gain is out dated and is not a good way to test Echo skills. Putting students in a field environment and making them carry heavy Rucks is out dated we operate out of Fire bases and carry go bags. I understand the need for the suck factor but it can be pushed other ways and other tactics like VSO can be*

*taught during this FTX. I am currently down range [deployed] and can say max gain was not beneficial to me at all. The 137 should be taught and used during max gain but not made a primary source of communication.”*

*“For my echo training during the SFQC we primarily studied on things like antenna theory and construction and HF utilizing the PRC-137. Once I got to my detachment though, those skills are useless. Truck mounted communications would have been essential to know or at least see prior to getting to group, as well as more training on things such as computer networking, implementing and maintaining a BGAN or SDN system, PRC-117 G training, and COMSEC custodian training.”*

# Summary

## Data

The data collected above clearly show both the strengths and weaknesses of the 18E course in SWCS. It is very apparent that the 18E course is teaching some of the right things; however, it is clear that there are many topics and systems needed by 18E on the ODA that are not being taught. The chart below breaks down the data of the top four systems used on an ODA and how they compare to the other systems on the teams. The systems are arranged in order of the most relied upon system (AN/PRC-148) to the forth-most relied upon system (SDN-L) out of a total of twenty systems.

<u>SYSTEM</u>	<u>ABLE TO OPERATE</u>	<u>NOT ABLE TO OPERATE</u>	<u>STRENGTH/WEAKNESS</u>
AN/PRC-148	#1/20 (76/76)	#1/20 (0/76)	#1 Strength
AN/PSC-5	#2/20 (75/76)	#2/20 (0/76)	#2 Strength
AN/PRC-117G	#10/20 (40/76)	#10/20 (27/76)	#3 Weakness
SDN-L	#14/20 (9/76)	#20/20 (57/76)	#1 Weakness

## AN/PRC-148

According to the chart above, the AN/PRC-148 is the number one system most relied upon by the ODA. Seventy-six out of seventy-six respondents identified the AN/PRC-148 as a system they were able to operate upon arrival at their first ODA and zero out of seventy-six identified it as a system they were unable to operate. This data correspond to the responses that show the AN/PRC-148 as the number one strength of the 18E upon arrival at their first ODA.

In the case of this system, the 18E course is training exactly what it needs to in order to prepare the 18E for his duties.

### AN/PSC-5

The AN/PSC-5 is another success story of the 18E course. It is the second most relied upon system on the ODA and the second system new 18E's are able to operate upon arrival at their first ODA. As with the AN/PRC-148, the AN/PSC-5 is tied for first place as zero out of seventy-six respondents identified it as a system they could not operate upon arrival at their first ODA. It is no surprise that the AN/PSC-5 is the number two strength of the 18E.

Again, the 18E course is not only teaching the right systems in the course, but they are teaching it well.

### AN/PRC-117G

The AN/PRC-117G is a relatively new system to the Special Forces and the data show that the training on this system in the schoolhouse is not adequate. The AN/PRC-117G is the third most relied upon system by the ODA, yet only forty out of seventy six respondents identified it as a system they could operate upon arrival at their first ODA making it number ten in the list of twenty systems. Twenty-seven out of seventy-six 18E's said they were not able to operate the AN/PRC-117G, again making it number ten out of twenty systems. With these numbers, the AN/PRC-117G ended up being the number three weakness of the new 18E. This truly reflects a weakness in the 18E POI.

### SDN-L

The fourth most relied upon system by the ODA, the SDN-L, is known the least by new 18E's. Only nine out of seventy-six respondents were able to operate the SDN-L after graduation from the 18E course and fifty-seven out of the seventy-six said they were unable to operate it. This is in line with 18E's self identifying the SDN-L as their number-one weakness.

This data shows a failing of the 18E course and highlights where the changes in the 18E POI need to be made.



## Training

It is no surprise that the data identifies satellite communications and computer networking as the number one and number two topics, respectfully, 18E's need more training on in the 18E course. The reason is because the top four communication system identified above can also be used to connect computer systems over satellite systems. Seventy-two out of seventy-six respondents said they feel some or a lot of time spent on training after the 18E course could have been taught in the course. Most of this training is on satellite communications or computer networking.

## Changes to the 18E course

The top priority for the 18E course instructors is to identify the current systems being used on the ODA today. These systems need to be incorporated into the 18E course as soon as possible. Graduating 18E's from the course who cannot fully function as a member of an ODA not only wastes time by requiring him to take additional training, but it also diminishes the impact the ODA can have on the battlefield.

The second priority for the 18E instructors is to insert themselves into the process used by Special Forces to test and procure new communication systems. By being part of the process to acquire new communication systems, the 18E course can anticipate the future needs of the ODA and start preparations to acquire and train 18E's on the new systems, thereby producing a better communications Soldier.

Because time is a resource that cannot be replenished, the 18E course needs to examine what they are currently teaching and if it is necessary. There are several systems that are trained and tested in the 18E course that, according to the data, are not used very extensively on an ODA. Three examples of this are the AN/PRC-152, AN/PRC-150 and the ASIP radios. All three systems could be taught in the 18E course for familiarization purposes and information handed out in the form of manuals and guides. Removing these systems, and possibly other systems/topics, would make room in the POI for current, more relied upon systems and techniques.

# Conclusion

## Impacts

Adjustments to the current 18E training are vital to remain on the cutting edge of technology. Special Forces must have the best trained Soldiers who are knowledgeable on the most up-to-date techniques on the most modern equipment. If the changes identified earlier are made to the 18E course to meet this demand, the impacts will reach far beyond communications.

First, it will mean that a new 18E, fresh out of the 18E course, will be able to arrive at his first ODA able to operate all systems used by the team with little to no additional training. Special Forces ODA's are one of the most deployed elements in the US Army and receiving a team member who is not fully proficient in his duties can slow the momentum of the entire team while that 18E receives training he could have received in the 18E course.

Making the identified changes will also have the potential to save taxpayer dollars. The old adage of *time is money* rings true, especially when government money funds the training. Streamlining the 18E course to cover only relevant topics and systems will alleviate the additional training required after the 18E arrives at his first ODA to become fully capable of executing his duties. This ensures that the 18E is fully trained, yet time and money are not wasted.

The third and most important impact of making the right changes to the 18E course will mean the United States Army Special Forces remain the best trained Soldiers in the world. It is widely understood that technology does not win wars, men and women on the battlefield do. That being said, modern, up-to-date technology certainly gives our fighting forces an edge over its adversaries. Ensuring our SF Soldiers, specifically our 18E's, are trained on that modern technology will allow us to keep that edge on the battlefield and fight and win current and future wars.

# Suggestions for Additional Research

## Course Length

The data included in this field project can be used to determine the specific systems, technology, and topics to keep, add to, or remove from the 18E course; however, the amount of time currently allocated to the 18E course may not be enough to teach what is necessary. Another study can continue the research to discover what the true length of the 18E course should be. This study can examine how much time is necessary to instruct the required POI, regardless of budget cuts or time constraints.

## Keeping Up With Technology

Another topic for additional research is how the 18E course can insert itself into the process of acquiring new communication systems. Identifying that a certain cutting-edge radio or antenna needs to be taught is the first step; however, actually obtaining enough quantities of the equipment for schoolhouse use is a completely different topic. As it stands now, SWCS is the last to receive any new technology. When a new system is purchased by the Army, the operational SF Groups are the first to be issued it. This makes a bit of short-term sense as you want your best technology in your warfighters hands. But until that equipment is put in the schoolhouse, the 18E course will continue to produce Soldiers who are unable to operate it.

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# Special Forces Communication Systems



Harris 5800

**Figure 14, Harris 5800 Radio, Harris Corporation, 2006**

The RF-5800H, a member of Harris' FALCON® II family, is a third-generation software-defined radio. Automatic Link Establishment (ALE), data rates up to 9600 bps with advanced error-free protocols, an embedded GPS receiver, MELP digital voice, Citadel® encryption, digital ECCM, and a built-in Internet Protocol (IP) interface. The RF-5800H-MP includes a multitude of standardized waveforms to make it the most interoperable HF radio available. It includes modems, vocoders, and ALE protocols with link protection that conforms to NATO and U.S. military standards.<sup>26</sup>



AN/PSC-5

**Figure 15, AN/PSC-5 Radio, Raytheon Corporation, 2008**

The AN/PSC-5D supports the Department of Defense requirements for a lightweight, reliable, multi-band/multi-mission terminal supporting critical tactical communications. The AN/PSC-5D operates in

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<sup>26</sup> (Harris Communications 2012)

the VHF and UHF frequency spectrum and supports LOS (Line-of-Sight) with frequency agile modes, SATCOM (Satellite Communications), DAMA (Demand Assigned Multiple Access), and Maritime operation. Voice and data operation is available in each of these modes.<sup>27</sup>



AN/PRC-117

**Figure 16, AN/PRC-117 Radio, Harris Corporation, 2012**

The AN/PRC-117F is an advanced multiband/multimission manpack radio that provides reliable tactical communications performance in a small, lightweight package that can maximize user mobility. The AN/PRC-117F is a multiprocessor based, fully digital, software controlled, voice and data transceiver. The AN/PRC-117F is capable of providing; LOS, SATCOM, ECCM, FH operations (SINCGARS and HAVEQUICK), and is compatible with all tactical VHF/UHF radios.<sup>28</sup>

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<sup>27</sup> (Raytheon 2011)

<sup>28</sup> (United States Department of the Army 2009)



AN/PRC-152

**Figure 17, AN/PRC-152 Radio, Harris Corporation, 2010**

The Falcon III® AN/PRC-152 single-channel multiband, multimission handheld radio provides the optimal transition to JTRS technology. The radio covers the full 30 to 512 MHz frequency range with adjustable transmit output power up to 5 watts.<sup>29</sup>



AN/PRC-148

**Figure 18, AN/PRC-148 Radio, Thales Communications, 2010**

The multiband inter/intra team radio (MBITR) is used for company size nets depending on command guidance and mission requirements. It also has the capabilities of being used as a handheld radio to support the communications of a platoon, squad or team tactical environment for secure communications. It enables small unit leaders to adequately control the activities of subordinate elements.<sup>30</sup>

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<sup>29</sup> (Harris Communications 2012)

<sup>30</sup> (United States Department of the Army 2009)



AN/PRC-150

**Figure 19, AN/PRC-150 Radio, Harris Corporation, 2006**

The AN/PRC-150 provides units with state of the art HF radio capabilities in support of fast moving, wide area operations. The AN/PRC-150 provides units with Beyond Line of Sight (BLOS) communications without having to rely on satellite availability on a crowded communications battlefield. The systems' manpack and vehicular configurations ensure units have reliable communications while on the move, and allow for rapid transmission of data and imagery.<sup>31</sup>



SKL

**Figure 20, AN/PYQ-10 Simple Key Loader, Sierra Nevada Corporation, 2005**

The AN/PYQ-10, simple key loader (SKL), was designed as a replacement for the AN/CYZ-10, ANCD.<sup>32</sup>

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<sup>31</sup> (United States Department of the Army 2009)

<sup>32</sup> (United States Department of the Army 2009)



ANCD

**Figure 21, AN/CYZ-10 Automated Net Control Device, U.S. National Security Agency, 1990**

The AN/CYZ-10, automated net control device (ANCD) is capable of receiving cryptographic net information from the Army Key Management System (AKMS) workstation. It can obtain keys from the system key generators or from a hard copy key. Once received, the keys are correctly matched to the cryptographic net information. The ANCD is primarily used for handling COMSEC keys, FH data, sync times, and SOI information.<sup>33</sup>



SECNET 54

**Figure 22, SecNet 54 Encryption Device, Harris Corporation, 2009**

SecNet 54® is a family of Internet Protocol (IP) communications encryption products designed to keep data, voice and video communications secure.<sup>34</sup>

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<sup>33</sup> (United States Department of the Army 2009)

<sup>34</sup> (Harris Communications 2009)



**Figure 23, SIPR NIPR Access Point Terminal, Telecommunications Systems Corporation, 2012**

The SNAP VSAT is highly transportable and sets up quickly to provide multi-megabit connectivity to provide a wide array of broadband services via NIPR and SIPR including access to encrypted voice, video and imagery data. The capability of warfighter access to both NIPR and SIPR using a single shared satellite carrier provides robust throughput while conserving bandwidth resources, which are very costly using the commercial satellite fleet.<sup>35</sup>



**Figure 24, SINCGARS Radio, ITT Corporation, 1998**

SINCGARS provide interoperable communications between C2 assets and have the capability to transmit and receive secure voice and data. The SINCGARS family is designed on a modular basis to achieve

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<sup>35</sup> (Lane 2009)

maximum commonality among various ground and airborne configurations. A common RT is used in the manpack and all vehicle configurations. These individual components are totally interchangeable from one configuration to the next. Additionally, the modular design reduces the burden on the logistics system to provide repair parts.<sup>36</sup>



KG-250

**Figure 25, KG-250 Encryption Device, Viasat Corporation, 2008**

The KG-250 delivers reliable IP network encryption with low cost of ownership through a software-upgradable design. The AltaSec KG-250 is a Type 1 Inline Network Encryptor (INE) certified by the National Security Agency for Top Secret and below networking.<sup>37</sup>



AN/PRC-137

**Figure 26, AN/PRC-137 Radio, Thales Communications, 1998**

The SMRS is a communications system that will supplement and interoperate with other SOF Command, Control, Communications, Computers, and Intelligence (C4I) systems. The SMRS consists of a long-

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<sup>36</sup> (United States Department of the Army 2009)

<sup>37</sup> (ViaSat 2012)



range manpack radio (MPR), a Digital Message Entry Device (DMED) with cable, a battery box with cable, and a tactical/transportable base station (TBS). SMRS provides secure voice and secure data messaging between two base stations, a base station and MPR, or between two MPRs.<sup>38</sup>

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<sup>38</sup> (Defense Information Systems Agency 1998)

# Glossary of Special Terms

## A

Advanced Operations Base (AOB) – (DOD) In special operations, a small temporary base established near or within a joint special operations area to command, control, and/or support training or tactical operations. Facilities are normally austere. The base may be ashore or afloat. If ashore, it may include an airfield or unimproved airstrip, a pier, or an anchorage. An advanced operations base is normally controlled and/or supported by a main operations base or a forward operations base.<sup>39</sup>

## B

## C

Coalition – (DOD) An ad hoc arrangement between two or more nations for common action.<sup>40</sup>

Combined Arms – (Army) The synchronized or simultaneous application of several arms – such as infantry, armor, field artillery, engineers, air defense, and aviation – to achieve an effect on the enemy that is greater than if each arm were used against the enemy in sequence.<sup>41</sup>

## D

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<sup>39</sup> (United States Department of the Army 2004)

<sup>40</sup> (United States Department of the Army 2004)

<sup>41</sup> (United States Department of the Army 2004)

## E

Electronic Warfare – (DOD) Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also called EW. The three major subdivisions within electronic warfare are: electronic attack, electronic protection, and electronic warfare support.<sup>42</sup>

## F

Forward Operating Base (FOB) – See Advanced Operations Base (AOB)

## G

## H

Host Nation – (DOD) A nation that receives the forces and/or supplies of allied nations, coalition partners, and/or NATO organizations to be located on, to operate in, or to transit through its territory. Also called HN.<sup>43</sup>

## I

Interagency Coordination – (DOD) Within the context of the Department of Defense involvement, the coordination that occurs between elements of the Department of Defense and engaged US Government

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<sup>42</sup> (United States Department of the Army 2004)

<sup>43</sup> (United States Department of the Army 2004)

agencies, nongovernmental organizations, and regional and international organizations for the purpose of accomplishing the objective.<sup>44</sup>

Information Operations (IO) – (DOD) Actions taken to affect adversary information and information systems while defending one's own information and information systems.<sup>45</sup>

## **J**

Joint Force – (DOD) A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments, operating under a single joint force commander.<sup>46</sup>

Joint Force Commander (JFC) – (DOD) A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called JFC.<sup>47</sup>

Joint Operations – (DOD) A general term to describe military actions conducted by joint forces, or by Service forces in relationship (e.g., support, coordinating authority), which, of themselves, do not create joint forces.<sup>48</sup>

## **K**

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<sup>44</sup> (United States Department of the Army 2004)

<sup>45</sup> (United States Department of the Army 2004)

<sup>46</sup> (United States Department of the Army 2004)

<sup>47</sup> (United States Department of the Army 2004)

<sup>48</sup> (United States Department of the Army 2004)

## L

## M

Military Occupational Specialty (MOS) – The grouping of duty positions requiring similar qualifications, and the performance of closely related duties.<sup>49</sup>

Multinational Operations – (DOD) A collective term to describe military actions conducted by forces of two or more nations, usually undertaken within the structure of a coalition or alliance.<sup>50</sup>

## N

Net Control Station (NCS) – (DOD) A communications station designated to control traffic and enforce circuit discipline within a given net.<sup>51</sup>

## O

Operational Detachment – Alpha (ODA) – See Special Forces Operational Detachment – Alpha (SFOD-A)

Operational Detachment – Bravo (ODB) – See Special Forces Operational Detachment – Bravo (SFOD-B)

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<sup>49</sup> (United States Department of the Army 2007)

<sup>50</sup> (United States Department of the Army 2004)

<sup>51</sup> (United States Department of the Army 2004)

## **P**

**Psychological Operations** – (DOD) Planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals. The purpose of psychological operations is to induce or reinforce foreign attitudes and behavior favorable to the originator's objectives. Also called PSYOP.<sup>52</sup>

## **Q**

## **R**

## **S**

**Signal Operation Instructions (SOI)** – (DOD) A series of orders issued for technical control and coordination of the signal communication activities of a command.<sup>53</sup>

**Signals Intelligence (SIGINT)** – (DOD) 1. A category of intelligence comprising either individually or in combination all communications intelligence, electronic intelligence, and foreign instrumentation signals intelligence, however transmitted. 2. Intelligence derived from communications, electronics, and foreign instrumentation signals.<sup>54</sup>

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<sup>52</sup> (United States Department of the Army 2004)

<sup>53</sup> (United States Department of the Army 2004)

<sup>54</sup> (United States Department of the Army 2004)

Special Forces Operational Detachment – Alpha (SFOD-A) – The SFODA, composed of 12 men, is the primary Special Forces operational unit and the building block for Special Forces operations. Also known as an ODA, A detachment, or an A team, all other Special Forces organizations are designed to command, control, and support the SFODA.<sup>55</sup>

Special Forces Operational Detachment – Bravo (SFOD-B) – A Special Forces Company HQ is an SFODB, which is commanded by an experienced Special Forces Major. The composition of a Special Forces company enables the Special Forces company to mission command its own organic or attached SFODAs in garrison and when deployed. It also provides the battalion commander with an additional operational element which can conduct its own assigned mission. The mission may require the SFODB to operate separately or exercise mission command of a mix of organic and/or attached SFODAs.<sup>56</sup>

Special Forces Operations Base (SFOB) – (DOD) A command, control, and support base established and operated by a Special Forces group or battalion from organic and attached resources. The base commander and his staff coordinate and synchronize the activities of subordinate and forward-deployed forces. A Special Forces operations base is normally established for an extended period of time to support a series of operations.<sup>57</sup>

Special Operations – (DOD) Operations conducted by specially organized, trained, and equipped military and paramilitary forces to achieve military, political, economic, or informational objectives by unconventional military means in hostile, denied, or politically sensitive areas. These operations are conducted across the full range of military operations, independently or in coordination with operations of conventional, non-special operations forces. Political-military considerations frequently shape special

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<sup>55</sup> (United States Department of the Army 2012)

<sup>56</sup> (United States Department of the Army 2012)

<sup>57</sup> (United States Department of the Army 2004)

operations, requiring clandestine, covert, or low visibility techniques and oversight at the national level. Special operations differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets. Also called SO.<sup>58</sup>

Special Operations Forces – (DOD) Those Active and Reserve Component forces of the Military Services designated by the Secretary of Defense and specifically organized, trained, and equipped to conduct and support special operations. Also called SOF.<sup>59</sup>

Survival, Evasion, Resistance, and Escape – Training and actions taken by military members to assist them in surviving in hostile environments, resisting enemy activities, escaping enemy forces, and evading enemy forces until the individual or unit can be reunited with friendly forces. Also called SERE.<sup>60</sup>

## **T**

## **U**

Unconventional Warfare (UW) – (DOD) A broad spectrum of military and paramilitary operations, normally of long duration, predominantly conducted by indigenous or surrogate forces who are organized, trained, equipped, supported, and directed in varying degrees by an external source. It includes guerrilla

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<sup>58</sup> (United States Department of the Army 2004)

<sup>59</sup> (United States Department of the Army 2004)

<sup>60</sup> (United States Department of the Army 2004)



warfare and other direct offensive, low visibility, covert, or clandestine operations, as well as the indirect activities of subversion, sabotage, intelligence activities, and evasion and escape.<sup>61</sup>

## V

## W

Weapons of Mass Destruction – (DOD) Weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. Weapons of mass destruction can be high explosives or nuclear, biological, chemical, and radiological weapons, but exclude the means of transporting or propelling the weapons where such means is a separable and divisible part of the weapon. Also called WMD.<sup>62</sup>

## X

## Y

## Z

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<sup>61</sup> (United States Department of the Army 2004)

<sup>62</sup> (United States Department of the Army 2004)

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