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Knowledge of Graduates of the Watch Officer/Watch Chief Course

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KNOWLEDGE OF GRADUATES OF THE WATCH OFFICER/WATCH CHIEF
COURSE

A Research Paper Presented to the Graduate
Faculty of the Department of STEM Education and
Professional Studies at Old Dominion University

In Partial Fulfillment of the Requirements for
the Degree Master of Science in Occupational
and Technical Studies

By

James Garrett Sullivan

November 2011

SIGNATURE PAGE

This research paper was presented by James Garrett Sullivan under the direction of Dr. John Ritz for SEPS 636, Problems in Occupational and Technical Studies. The report was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science in Occupational and Technical Studies.

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CHAPTER I

INTRODUCTION

The Command and Control Training and Education Center of Excellence (C2 TECOE) provides Watch Officer and Watch Chief training at the Marine Air-Ground Task Force (MAGTF) Integrated Systems Training Centers (MISTC). The Watch Officer/Watch Chief course is important and vital training for the Marines who will assume the duties of the Watch Officer or Watch Chief, which are billets in a unit's combat operations center.

The Commanding General of Training and Education Command, a higher headquarters to the C2 TECOE, directed that all Gunnery Sergeants receive Watch Chief training while attending the Advance Course. After considerable analysis of the training provided, it was determined, although the same type of curriculum could be delivered, proper Watch Officer/Watch Chief certification could not be achieved due to the size of the student throughput for one evolution of training during the Advance Course. The class size of the Watch Officer/Watch Chief Course taught at the MISTC is typically 15-20 Marines. The class size of the Advance Course taught on board Quantico can range from 45-65 Marines.

Both training evolutions take approximately five days and will include instruction on command and control systems, billet responsibilities, and how to conduct battle drills within the combat operations center. The General wanted Marines who attend the training on board Quantico to receive a Watch Officer/Watch Chief certification equivalent to those Marines who had attended training at the MISTC. The purpose of this study sought to determine if there was a significant enough difference between

knowledge learned by attendees of both training programs to deny the certification of students as Watch Chiefs at the C2 TECOE training facility.

STATEMENT OF THE PROBLEM

The problem of this study was to compare the knowledge of graduates of the Watch Officer/Watch Chief Course administered by the MISTC at Camp Lejeune, North Carolina, with the students that receive non-certified Watch Officer/Watch Chief training administered by the C2 TECOE, located on board Quantico, Virginia, to determine the validity of the certification process of Watch Officers and Watch Chiefs at the MISTC.

RESEARCH HYPOTHESIS

To find a solution to this problem, the following hypothesis was established:

H₁: Graduates of the Watch Officer/Watch Chief Course will perform better than students that receive Watch Officer/Watch Chief training at Command and Control Training and Education Center of Excellence.

BACKGROUND AND SIGNIFICANCE

The Command and Control Training and Education Center of Excellence (C2 TECOE) serves as the central Marine Corps agency for command and control (C2) training and education in order to synchronize the art and science of C2 training and education requirements from the individual Marine through all levels of Marine Air-Ground Task Force (MAGTF) from the Commander all the way down to the small unit leader (Hawkins, 2009). Ask any ten commanders what the art and science of command and control is and you will likely get ten different answers. Command and control is one of six Marine Corps Warfighting functions as defined by Marine Corps Doctrinal Publication 6. The textbook definition is that Command and Control is the authoritative

command over a unit in the execution (control) of that unit in accomplishing an assigned mission (USMC, 1996). The “art” of command and control is simply the means by which a commander sees that something needs to get done and makes it happen. This requires that the commander have the situational awareness to make the correct decisions. Situational awareness is having an understanding of all aspects of the mission and keeping the commanders intent with regard to any decisions made once the plan is put into place. Commanders must take into account current resources available such as equipment and personnel and make a timely decision. One of the assets available to the Commander to help him in his decision making is the information which flows from the combat operations center.

During combat, the flow of information between the Commander and his subordinate leaders is vital to the success of any mission. This process can be viewed as a push and pull of information. The combat operations center is the location where this information is compiled, analyzed, and disseminated to support the decision making process. The successful manning and training of personnel in the combat operations center is vital to this process. The Watch Officer is the Commander’s direct representative and is the senior billet holder within the combat operations center. Essentially, the Watch Officer coordinates proper responses to events and information requirements. For example, if a unit within the area of operations requires a medical evacuation, they will contact the radio operator located at the combat operations center. The Watch Officer will have the responsibility to coordinate actions of available aircraft and the unit on the ground to make this evacuation happen in a timely manner.

The Watch Chief is also important to the daily battle rhythm of the combat operations center and is seen as the Watch Officer's "right hand man". He is responsible for the daily battle rhythm, control of access to the Combat Operations Center, and management of all watch standers. The Watch Chief will step in and take control in the combat operations center in the absence of the Watch Officer.

Currently, the only officially approved training for Watch Officers and Watch Chiefs is provided by the C2 TECOE at the MISTC. The scope of the Watch Officer/Watch Chief course includes instruction on current command and control systems, billet responsibilities, information management, and the conduct of battle drills. Marines who are assigned the billet of Watch Officer and Watch Chief are typically Officers and Staff Noncommissioned Officers. Most of these Marines will have no prior experience before taking on this billet while deployed. As such, the Watch Officer/Watch Chief Course is essential training prior to deployment.

In 2007, the Commanding General of Training and Education Command directed that a working group be created to evaluate the curriculum for all resident enlisted professional military education. The working group consisted of Marines from the Operating Forces and Training Commands, ranging in ranks from Gunnery Sergeant to Colonel. One outcome of the working group was that Marine Staff Noncommissioned Officers had little to no exposure to the art and science of command and control. The General directed his curriculum developers to implement this training during the Advance Course. The Advance Course is the career course for all Gunnery Sergeants in the Marine Corps. Gunnery Sergeants are required to complete this career level course before being selected to the next rank.

The Marine Corps University was directed by the General to partner with the C2 TECOE and provide Watch Chief training for all Gunnery Sergeants attending the Advance Course. It was determined that if a Gunnery Sergeant could be certified as a Watch Chief after attending the Advance Course, then units would not have to spend additional time sending them to MISTC's. C2 TECOE's contention was that due to the size of the Advance Course classes, proper training and certification could not be gained.

The C2 TECOE started training all Advance Course students in the fall of 2009 with the first iteration of COC training. After a full year of training, the instructors believe that the students who attend the training at C2 TECOE would not differ in knowledge and ability to perform the duties of the Watch Chief, than those who have received the training at the MISTC. There were several factors which could be measured to definitively answer this issue.

LIMITATIONS

The limitations of this study were as follows:

1. This study was limited to students attending the Watch Officer/Watch Chief Course at the MISTC located at Camp Lejeune, North Carolina, and students attending the Advance Course at C2 TECOE, Quantico, Virginia.
2. The researcher will rely on the instructor at the Camp Lejeune location to deliver and eventually collect evaluations from the students.
3. All of the participants are Marines serving on Active Duty.

ASSUMPTIONS

In this study there were several assumptions the researcher assumed to be true and correct. The assumptions were as follows:

1. All participants of the study have some level of operational C2 experience commensurate with their current grade.
2. All participants were given the same pre-instruction assessment of Command and Control Systems.
3. All participants received the same post curriculum assessment.
4. Instructors at both training locations are competent in the delivery of the instruction and have equal levels of operational C2 experience.
5. Instructors at both locations follow the prescribed curriculum without deviation.

PROCEDURES

This study will compare student's knowledge at both training locations. Additional data collected on the Marines will include deployment experience, years of service, and any prior knowledge of Command and Control systems. The two groups will be compared on the data collected to determine if there is a significant difference in their knowledge of the performance of the Watch Officer and Watch Chief billet in the combat operations center. There will be a test issued prior to training and again upon completion of training.

DEFINITION OF TERMS

The following terms and definitions are offered to clarify and define words or ideas which may be specific to this study.

Marine Air-Ground Task Force Integrated Systems Training Center (MISTC) – Training Centers located on board major Marine Corps installations which deliver instruction on Command and Control systems and the art of Command and Control in the Combat operations center.

Marine Air-Ground Task Force (MAGTF) – The MAGTF combines all elements of the Marine Corps war fighting capabilities (Air, Ground, Combat Service Support and Command Element) to meet the needs of any range of military operations which require the use and deployment of Marine Corps forces.

Command and Control Training and Education Center of Excellence (C2 TECOE) – The C2 TECOE is the higher headquarters for the MISTCs. C2 TECOE is located on board Marine Corps Base, Quantico, VA.

Command and Control (C2) – the authoritative command over a unit in the execution (control) of that unit in accomplishing an assigned mission (USMC, 1996).

Watch Officer – The senior representative in the Combat operations center who is in charge of the rapid dissemination of information in order to make timely and effective decisions.

Watch Chief – Assist the Watch Officer in the management and execution of the duties within the Combat operations center.

Combat Operations Center (COC) – The COC is the location of key members of a battle staff during combat operations. The COC is where information from the battlefield is received, analyzed, and processed by multiple Warfighting sections in order to provide situational awareness to commanders so they may make timely and accurate decisions.

Operating Forces – This term describes any unit which is designated as a deploying force within the Marine Corps. This can include ground and air elements as well as combat service support communities.

Training Command – This term describes any organization or unit whose sole mission is to provide training or education to Marines and supporting agencies.

Staff Noncommissioned Officer – The SNCO is a career Marine serving in grades E-6 through E-9. On average, they will have eight years experience and are expected to enforce policies and exercise leadership over younger Marines.

Common Tactical Picture (CTP) – This term is defined as an accurate and complete display of relevant tactical data within a unit's area of operations. The CTP is comprised of tactical information from all available C2 systems and analog reports. The CTP is typically displayed on a map of the area overlaid with icons and symbols which represent specific units or actions and viewed within the COC on a large display screen.

Battle Drill – A collective action executed in a standard manner without the application of a deliberate decision making process. The action is vital to success in combat or critical to preserving life. The drill is initiated on a cue, such as an enemy action or simple order, and is a trained response to the given stimulus. It requires minimal orders to accomplish and is standard throughout like units.

OVERVIEW

The Marine Corps has determined that there are two separate training regimens for Watch Officer/Watch Chief training. Furthermore, the Marine Corps identified that there was a perceived gap in the training and education of Marine Staff Noncommissioned Officers on command and control systems and processes.

Specifically, it was believed that Marines were ill prepared for assuming the duties of the Watch Officer/Watch Chief for a deployed unit. After collecting data, this researcher hopes to provide validation for the MISTC certification process and provide data which shows a difference between the two courses.

Chapter II will provide the reader with further literature on the importance of properly trained Watch Officer/Watch Chiefs and how the lack of training can be detrimental to the unit's success. Chapter III will provide information on how the data was collected and analyzed to discover conclusions about the research material. Chapters IV and V will provide the reader with the findings, summary, conclusions, and a recommendation for the way ahead in regard to future research on this subject.

CHAPTER II

REVIEW OF LITERATURE

This review of literature is presented to provide additional framework for the problem statement. The first section covers the development of the COC and importance of battle staff training. The second portion introduces the program of instruction for the Watch Officer/Watch Chief Course given by all MISTCs. The third and last section compares this course to the C2 training provided to Gunnery Sergeants during their attendance at the Advanced SNCO Course onboard Quantico, Virginia.

DEVELOPMENT OF THE COMBAT OPERATIONS CENTER

A significant part of any command's success on the battlefield is the accurate allocation and emplacement of the unit's resources. Once a unit takes over a specific area of operations, a Combat Operations Center (COC) is established by the commander. The COC can be placed in a hardened facility or within several tents, obviously taking the current level of security in the area into account. The COC is the heart of the unit's information sharing process. The COC can take many forms, depending largely on the size of the unit, area of operations, and more specifically, the type of operations the unit expects to conduct. For example, the Combat Operations Center for a battalion conducting operations in Afghanistan would be the same size for a battalion conducting humanitarian relief efforts in Haiti. However, the billets within the COC may be different between the two. For the purpose of this study, the term COC will refer to a battalion size unit which has been given the mission to conduct combat operations in an assigned area.

The concept of the Combat Operations Center has been in use since the early days of warfare. During the island hopping campaigns of WWII, commanders established ad hoc COC's on the beach heads while coordinating support from Navy vessels. Subordinate leaders on the beach relayed information back to the COC in order to provide the commander situational awareness. The COC of today is much different than that of our forefathers. Technology has entered the realm of combat operations like never before, with systems designed to do everything from track units via satellite feeds to fuel levels on vehicles spread throughout an area the size of the state of Virginia. However, the increased reliance on integrated C2 systems to maintain situational awareness of the battlefield brought with it an increase in training Marines to use the equipment. The fielding of C2 systems within the COC has occurred within a very short time period in support of operations. Many Marines simply did not have the opportunity to train on the systems and become proficient in their operation. Additionally, because of the urgent necessity to field these systems to the battlefield, initial training was also inadequate. This created friction within the COC and became a dilemma for Commanders. In the 2009 Systemic Trends Report to the Commanding General of Training and Education Command, it was noted by researchers that units lose situational awareness quickly when they wrestle with the plethora of C2 systems currently resident in battalion COCs (Clardy III, 2009).

Within the COC there are several Command and Control Systems which are used by Marines to receive, analyze, and disseminate information. This process is referred to as maintaining situational awareness. These programs require specific training for the individuals who will use them. Typically an individual is assigned a job or billet within

the COC which has one or more systems assigned to it. The system provides the tool to complete the task. It is the job of the person holding the billet to understand how to employ that tool.

The basic billets inside the COC include the Watch Officer and Watch Chief, Intelligence Representative, Fires Representative, Air Officer, Common Tactical Picture Operator, Journal Clerk, and Radio Operator. The Intelligence, Fires, and Air representatives come to the unit already trained. These billets are filled by Marines who actually perform those duties in another capacity as part of their job. For instance, the Intelligence Representative is an Intel Analyst, trained at formal schools and has been working within the intelligence community. The same is true for the other two billets previously mentioned. The Journal Clerk and Radio Operator can be filled by any Marine. These two billets will likely receive On-Job-Training as a part of an exercise or training operation. Although they do not require specific training on complex C2 systems, units will usually send them to individual systems training. Lastly, the Common Tactical Picture (CTP) Operator is responsible for operating the C2 systems which help to manage the CTP for all to view within the COC. This individual billet can be filled by any Marine who has received extensive training on the specific C2 systems which manage the CTP.

The biggest problem facing commanders is the ability to bring all of these elements together into a cohesive battle staff. This is why having a well trained Watch Officer and Watch Chief is so important. Watch Officers and Watch Chiefs are typically employed with very little training prior to deployment. Time constraints and man power issues prevent individuals from being assigned in a timely manner. Additionally, these

individuals need to be trained in all of the functions, responsibilities, and capabilities of the COC at all levels. By doing so, these individuals will understand the jobs of each billet holder and understand the capabilities of all C2 Systems within the COC (Lopez, 2009).

A commanding officer of a unit recently returned from combat operations stated in his after action report that identifying and training COC staff early in the pre-deployment training cycle was vital to success on the battlefield (Christmas, 2010):

Train individuals on their specific duties and train the whole by integrating it into every training exercise. Watch officers need to be identified early and trained specifically in the duties and functions of a watch officer. A battalion level focus and maintaining big picture situation awareness has to be ingrained in them from the beginning. The same is true for all watch standers in the COC. All Marines should be trained on command and control and information systems that will be used in the COC and trained on tactical communication and radios. (p. 6)

More importantly, the absence of training for Watch Officers and COC staff can lead to tragic results. In an article published by Marine Corps Gazette, Lang (2010), a reserve Marine Corps Major who also works in the Operations Section of C2 TECOE, points out how "...inexperience in the COC can quickly turn into disaster" (p. 28). Within the article he references an incident in Afghanistan in which an Army unit on patrol was ambushed and sought help from the Operations Center. The Senior Watch Officer did not have a firm grasp of the tactical situation and was slow to respond. Further exacerbating the results, the ill trained Watch Officer failed to contact his higher chain of

command. According to the investigating officer, the lack of proper training of the Watch Officer had a direct impact on the tragic outcome of the situation and four Americans were killed, along with a number of Afghanistan Soldiers (Lang, 2010)

WATCH OFFICER/WATCH CHIEF COURSE

C2 TECOE developed a training program in order to standardize the training of all Watch Officer's in the Marine Corps. The responsibilities of the Watch Chief were also included in this course. The Watch Officer/Watch Chief Course was developed and formally approved May 2009. This was a weeklong training event in which individuals get instruction at the MISTCs on the responsibilities of these two key billets inside the COC. The scope of the course includes an introduction to the COC, familiarization with components and equipment, and training on C2 systems used within the COC. Additionally, students will become familiar with the responsibilities of all the billet holders within the COC and how those individuals assist in the management of information. The students will also participate in extensive practical applications of information management processes and procedures in what are called "Battle Drills" (Judge, 2009).

Battle drills are defined as the process of practicing the appropriate response to given scenarios or situations. Through consistent practice and "drill", an automatic response by the members of the COC starts to develop. When applied to the functions and responsibilities of the COC, battle drills are essential to success. At any given time, a COC can have multiple engagements or problems which require a response. The Watch Officer/Watch Chief Course taught at the MISTCs exposes students to over twenty-five hours of practical application of battle drills.

Students are placed in the Watch Officer billet and presented with a problem such as “Troops in Contact”. The Watch Officer is required to utilize his assets and personnel within the COC to respond to the unit reporting contact. The other billets within the COC are being filled by other students going through the same course. By rotating the Marines through the billets and providing them with an opportunity to assume the responsibilities of each position in the COC, the student develops an understanding of the scope of capabilities within the COC. Due to the size of the course, typically no more than fifteen students, the instructor can provide each individual with over two hours of time as the actual Watch Officer during battle drills, but the combined exposure to the individual filling a seat is over 25 hours within the time frame of the course. This practical application time is considered important to the certification process and is instrumental to the student's performance on the final written exam.

ADVANCED SNCO ACADEMY C2 TRAINING

As stated in the introduction, C2 training was implemented with the Advance Staff Noncommissioned Officers (ASNCO) Course in 2009. During review of the curriculum, developers determined that given the proper equipment at C2 TECOE on board Quantico, Virginia, Gunnery Sergeants could receive the same training as that being conducted at the MISTCs. The training schedule for the ASNCO Course mirrors the program of instruction for the Watch Officer/Watch Chief Course. The Gunnery Sergeants receive the same amount of classroom time on learning about the C2 systems and receive essentially the same lessons on the billets and responsibilities of personnel in the COC.

The key difference is the amount of practical application which each individual may get inside the COC conducting battle drills. The average size of a ASNCO Course is 55 Marines. Most of the time, students are split into four groups, each group will receive about five hours of practical application time in the COC. Although each student will get the chance to perform the duties of one of the billets, and are often rotated through each billet, there is no guarantee that the student will be given the opportunity to actually perform as a Watch Officer or Watch Chief. Oftentimes, the instructor will pick one of the less experienced Gunnery Sergeants in the group and have them assume the key billet. This gives the Gunnery Sergeant confidence once the drill has successfully been completed. As well, other students gain confidence in their ability to perform as a mock battle staff. According to the lead instructor, the performance of the students throughout the week is noticeably increased by the end of the week. As of this date, there is no formal assessment or evaluation of the individual Gunnery Sergeants during this week of training. It was determined at the onset of implementing the training package, that it would be too difficult to assess individuals. Currently groups are assessed by an instructor as to whether they can accomplish a group goal or task. This "pass or fail" method of assessment is inconsistent with being able to certify individuals during the training period.

Instructors at C2 TECOE have indicated that after a week of training the Gunnery Sergeants, they can complete all battle drills as the Watch Officer/Watch Chief Course student do toward the end of training. An informal written assessment of one iteration of the ASNCO Course after completion of the training indicated there was some validity to the argument. Most of the students were able to pass the written portion of the test. The

individual performance assessment or evaluation is required to definitively certify Watch Officers and Watch Chiefs.

SUMMARY

The proper training of Watch Officers and Watch Chief is vital to unit operations on the battlefield. Units who deploy without properly training individuals will most likely struggle with the process of information management and situational awareness. This failure has dire consequences while conducting combat operations and is a risk which cannot be accepted by commanders. Although there is currently only one official training venue for certification, there are other training programs that could assist in the certification process, thereby reaching a larger audience of Marines. In the next chapter, information will be provided on how data were collected during the evaluation of individuals.

CHAPTER III

METHODS AND PROCEDURES

The Watch Officer/Watch Chief Course program of instruction is vital to the certification process for battle staffs deploying overseas. The Watch Officer/Watch Chief training taught by C2TECOE to Marine Gunnery Sergeants at the Advance Staff Noncommissioned Officers Academy is also important to the professional development of senior noncommissioned officers. This research is a study seeking to determine whether or not certification of Watch Officer/Watch Chiefs can be given to Marines attending training at C2 TECOE. Chapter III will detail the population studied, instrument used, research methodology used, type of statistical analysis performed, and conclude with a summary.

POPULATION

There were a total of 118 students selected as the population for this study. There were 58 students enrolled in four separate Watch Officer/Watch Chief Courses at MISTC East, Camp Lejeune, North Carolina. A total of 60 students attended non-certified Watch Officer/Watch Chief training as a part of the Advance Staff Noncommissioned Officers (SNCO) Course at C2 TECOE, Quantico, Virginia.

INSTRUMENT USED

The method selected for data collection was a written exam given to all students at the end of the program of instruction for both courses being studied. There were a total of fifty multiple choice questions which presented the student with four optional answers to each question. This test was developed specifically to assess all learning objectives taught in both programs of instruction. For security reasons, the test is not provided for

this study. The test assessed the student's knowledge of principles of combat center operations, command and control systems capabilities and functions, and roles and responsibilities of combat operations center staff billets.

METHODS OF DATA COLLECTION

Final grades were collected at each location after all training had been completed. Students were given an unlimited time to complete the test. The Senior Watch Officer/Watch Chief Course Instructor for MISTC East administered the test at the Camp Lejeune location. This researcher administered and collected all test for students attending non-certified Watch Officer/Watch Chief training at the Quantico location. Other than location administered, there were no other identifying information on the test.

STATISTICAL ANALYSIS

The grades were compared to determine if there was a significant difference between students who attended Watch Officer/Watch Chief Course at MISTC East or those who received Watch Officer/Watch Chief training at C2 TECOE. A one-tailed t-test was used to determine if there was a difference between the means of the two groups.

SUMMARY

A study was conducted comparing the final test scores of students attending the Watch Officer/Watch Chief Course at MISTC East and Watch Officer/Watch Chief training at C2 TECOE to determine if there was a significant difference between the two groups. The results were examined to determine if students attending the training at C2 TECOE would be able to receive the same type of certification as students who attended the course at MISTC East. In Chapter IV, the results of the analysis will be presented.

CHAPTER IV

FINDINGS

The problem of this study was to compare the knowledge of graduates of the Watch Officer/Watch Chief Course administered by the MISTC at Camp Lejeune, North Carolina, with the students that receive non-certified Watch Officer/Watch Chief training administered by the C2 TECOE, located on board Quantico, Virginia, to determine the validity of the certification process of Watch Officers and Watch Chiefs at the MISTC. This chapter will provide an overview of the findings as a result of a statistical analysis comparing the sample means of the final written assessment of the two groups of students.

POPULATION ANALYSIS

The sample population for the Watch Officer/Watch Chief course attendees was a mixture of junior enlisted Corporals and Sergeants and Staff Noncommissioned Officers in the ranks of Staff Sergeant and Gunnery Sergeants. This population totaled 58 Marines and was tested over four separate courses from May 2011 to August 2011. The sample population for the second group totaled 60 Marine Gunnery Sergeants which were attending Advanced SNCO Academy Course 1-12.

FINDINGS

Statistical analysis of the result from the written test of the two sample groups revealed that Watch Officer/Watch Chief students achieved a mean of 88.10 on the final written test. The mean from students attending the Advance SNCO Academy Course was 64.73, which suggested a significant difference between the two groups. With a total

sample size of 118 students, the obtained t value was calculated at 13.99. The data were subjected to a one tail t-test and the results are summarized in Table 1.

Table 1

Statistical Analysis of Written Exam Results

	WO/WC	ADV SNCO
	COURSE	COURSE
SAMPLE	58	60
MEAN	88.10	64.73
VARIANCE	30.66	132.88
STANDARD		
DEVIATION	5.54	11.39
Degree of Freedom	116	
t-value	13.91	
Critical t-value	p>1.29 (p>.01)	

SUMMARY

In this chapter, the results of the research study were presented. These results indicated there was a significant difference in the means of the compared groups. Specifically, students of the Watch Officer/Watch Chief Course produced a means of 88.10 on the written test, whereas, students of the Advance SNCO Academy Course scored a mean of 64.73 on the final written test. Chapter V will provide a summary of

the research, a conclusion to the research hypothesis, and make recommendations based upon the results of the study for future research.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this research study was to compare the knowledge of graduates of the Watch Officer/Watch Chief Course administered by the MISTC at Camp Lejeune, North Carolina, with the students that receive non-certified Watch Officer/Watch Chief training administered by the C2 TECOE, located on board Quantico, Virginia, to determine the validity of the certification process of Watch Officers and Watch Chiefs at the MISTC. This chapter will summarize the findings, draw conclusions based on the findings, and make recommendations for further studies.

SUMMARY

The problem of this study was to compare the knowledge of graduates of the Watch Officer/Watch Chief Course administered by the MISTC at Camp Lejeune, North Carolina, with the students that receive non-certified Watch Officer/Watch Chief training administered by the C2 TECOE, located on board Quantico, Virginia, to determine the validity of the certification process of Watch Officers and Watch Chiefs at the MISTC. The sample populations consisting of 58 students from four Watch Officer/Watch Chief Courses administered at Camp Lejeune and 60 students from class 1-12 Advanced SNCO Academy were compared using a one tail t-test to show if the sample means of the two groups were different in performance on the final written test administered to certify Watch Officer/Watch Chief's. Final grades were collected and then compared to

determine if the sample means were similar using a one tail t-test at the .01 level of significance.

CONCLUSIONS

This research sought to address the assertion that Marine Gunnery Sergeants attending the non-certified Watch Officer/Watch Chief training at C2TECOE could achieve certification with the same program of instruction that was given at the MISTC for the certified Watch Officer/Watch Chief Course. Both groups received the exact same classroom instruction on the content of the course. Additionally both groups also received the same student material for each class they were taught. The only difference during the course of the instruction is the time each group is allotted to practice the principles in scenario driven battle drills. Each group was subjected to the same written test and given appropriate time to complete it. The researcher hypothesized there would be a significant difference between the two groups' academic success on the final written test which is used for certification. The obtained t-value of 13.99 significantly exceeded the .01 confidence level of 1.29. The students who attended Watch Officer/Watch Chief course scored significantly higher on the written test over the Advanced SNCO Course students. In fact, although having received the same instruction, the Advance SNCO Course Students mean score of 64.73 on the written test indicates that of a sample size of 60 students, most were unable to pass the test with a minimum score of 80%. Based on the findings of this study, we can conclude that there is a significant difference between the two groups success on the written test. The hypothesis was therefore accepted.

The significant difference in the test scores between the sample groups can be attributed to the size of the classes and the difference between the amounts of practical application time the two groups received. The staff and instructors from the Advance SNCO Academy Course and in fact, staff and instructor members from C2 TECOE did not believe the class size would cause any significant differences when the students from the Advance SNCO Academy Course took the final written test. The final analysis in fact surprised most of the staff, except for this researcher who believed it would be a significant difference. Most of the staff and instructors believed that since the Gunnery Sergeants are of a higher rank and on average have more experience than most of the students attending the Watch Officer/Watch Chief Course they would score better. The most beneficial factor to transfer of knowledge from classroom instruction is the practical application of the knowledge. Students who receive more hands on practical application in the performance of the duties of the Watch Officer/Watch Chief are able to take principles and concepts and apply them during scenario driven battle drills. The students attending the approved Watch Officer/Watch Chief course receive on average 25 hours of practical application within the Combat Operations Center. Students attending the non-certified Watch Officer/Watch Chief training receive on average five hours of practical application, of which very few individuals actually get the opportunity to perform the specific job assignments of the Watch Officer/Watch Chief.

RECOMMENDATIONS

The researcher recommends the following:

1. All students attending the Advance SNCO Academy non-certified Watch Officer/Watch Chief training at C2TECOE, who are subsequently assigned

the billet as a Watch Officer/Watch Chief in their parent organization, attend the certified Watch Officer/Watch Chief Course at the local MISTC.

2. Further analysis be conducted on developing a separate written test specific to the learning outcomes and objectives of the non-certified Watch Officer/Watch Chief training conducted for the Advanced SNCO Academy. This would allow for assessment consistent with the type of classroom instruction and limited practical application available to the students.
3. Additional research should be conducted to determine the validity of issuing a certification for Watch Officer/Watch Chief Course based solely on the student's performance on a written test.
4. Staff Members and Instructors of the Advance SNCO Academy conduct a review of the course schedule to determine if time should be added to the current Advance SNCO Academy schedule during the Watch Officer/Watch Chief training package in order to provide valid certification for all attendees.

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