The Ethics Game: A Mixed Methods Examination of Learning Outcomes Using Games

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ABSTRACT

Researchers at the Command and General Staff College (CGSC) conducted a mixed methods examination of the effect of introducing the experiential learning practice of playing an ethics game on student grasp of ethics information indicated through personal growth/self-awareness. The literature examined for this study established that ethics instruction can be challenging and sometimes viewed as overly scholarly rather than practical and applicable in daily life. Therefore, the purpose of this study was to measure participants personal growth/self-awareness if they played an ethics game versus received ethics instruction through a case study methodology. The test group consisted of 62 students with the control group of 63 totaling hundred and twenty-five participants. The test group played an ethics game where they used ethical concepts to solve four moral dilemmas whereas the control group used one case study to gain a deeper understanding of the ethical concepts. Although both methods of instruction were shown to be effective, findings established to a statistically significant level that the test group experienced a greater level of personal growth/self-awareness than the control group under certain conditions as a result of the treatment. These findings may be applicable not only to military but other contexts where leaders endeavor to choose appropriate ethical solutions to morally ambiguous problems.

INTRODUCTION

Ethics instruction can present challenges for educators. Since ethics is a subset of philosophy, some students may find the discussion of ethics overly academic, and risk misunderstanding the practical nature of ethical concepts. People use ethical concepts constantly in their daily lives. The study of ethics is practical because people must know how to determine for themselves and their organizations the difference between right and wrong (Pojman, & Fieser, 2006). Additionally, ethics is practical because determining the moral philosophies of others assists in determining who might be trustworthy from those who are not (McConnell & Westgate, 2018). Therefore, the pursuit of ethics instruction using experiential learning through applied, practical gaming may be useful to educators endeavoring to make ethics concepts accessible. After all, the field of ethics and the formulation of moral philosophies is all about making choices, formulating decisions, given situations where people may cooperate or compete with each other (Tadelis, 2013a). Perhaps the best way to teach such concepts is through playing games which illustrate moral dilemmas and how individuals address them.

PROBLEM

All people have moral philosophies; not all people are aware of what they are (McConnell & Westgate, 2018). Understanding one's moral philosophy is especially pertinent in the field of leader development and education. Leaders must make choices often with incomplete information in complex situations plagued with moral ambiguity. Leaders must not only know their own moral philosophy, but they must be comfortable helping others understand their moral philosophy and how to apply it in any situation.

PURPOSE

The purpose of this mixed methods study is to determine the degree to which a simple analog game designed for players to analyze and apply ethical concepts in a set of typical, relevant professional scenarios might support the learning and internalizing of those specific concepts and perhaps create the conditions for personal growth/self-awareness. What is learned from this study will be part of a Program Evaluation (See appendix B for Program Evaluation Plan) of a current ethics class that employs a single case study approach (L102, Ethical Dimensions of Organizational Leadership).

HYPOTHESES

H1: Student participants who play the ethics game (the test group) will be more effective at demonstrating understanding of ethical concepts through personal growth/self-awareness expressed in the ethical triangle than student participants who do not (the control group). H1 expressed mathematically: Test > Control.

H2: Null hypothesis. Student participants who play the ethics game (the test group) will show no difference at demonstrating understanding through personal growth/self-awareness of ethical concepts than student participants who do not (the control group). H2 expressed mathematically: Test = Control.

H3: Alternate hypothesis. Student participants who play the ethics game (the test group) will be less effective at demonstrating understanding through personal growth/self-awareness of ethical concepts than student participants who do not (the control group). H3 expressed mathematically: Test < Control.

Analysis of data collected utilizing the BlackBoard™ Enterprise Survey system from the test, control, and silent witness groups will assist researchers in determining if the hypothesis, null, or alternative have been supported.

RESEARCH QUESTIONS

R1. What is the level of student understanding and personal growth/self-awareness of ethical concepts if they have played the ethics game?

R2. What is the level of student understanding and personal growth/self-awareness of ethical concepts if they have not played the ethics game?

R3. What insights emerge from after action reviews with students, faculty and outside observers about the efficacy and utility of teaching ethics with a scenario-based game?

R4. How could the game-based lesson be improved in the planning, preparation, execution and assessment phases?

R5. How could the traditional lesson be improved in the planning, preparation, execution and assessment phases?

Analysis of data collected utilizing the BlackBoard™ Enterprise Survey system from the test, control, and silent witness groups assisted researchers in determining if the research questions have been supported.

DEFINITIONS

Consequentialism: The results desired drive the actions. This ethical approach was first put forward by John Stuart Mill and Jeremy Bentham and appears to be the simplest to grasp, especially in institutions like the military or business world. When victory in war or domination of a market or shareholder profit is considered fixed or absolute good, it simplifies how we think about particular decisions. Consequentialism is often expressed as the greatest amount of good for the greatest number of people (Pojman, & Fieser, 2006).

Leader: A person or thing that holds a dominant or superior position within its field, and is able to exercise a high degree of control or influence over others (Business Dictionary, 2018).

Leadership: Any individual that assumes a role or position or is given responsibility inspires and influences people to accomplish organizational goals by motivating people inside and outside the organizational command structure to accomplish tasks, focus their thinking and shape decisions for the larger benefit of the organization (Department of the Army, 2012, p. 1).

Principle or Duty Ethics: Fulfilling one's duty is meeting obligations. This perspective, also known as deontological ethics, was most famously represented in the writings of Immanuel Kant through his categorical imperative. The categorical imperative holds to act as if the decision you made to select a moral option would represent behavior which should become a universal law, i.e. your moral behavior becomes the societal standard and can be justified as such (Pojman & Fieser, 2006).

Virtue Ethics. Right action is the expression of virtuous character. This perspective is among the oldest in the field. Aristotle was among its first and most profound Greek champions, while Confucius had an enormous influence upon ethical thinking in Asia. Virtue based ethics should be easy to understand because it appeals to our innate sense of what is right and wrong (Borderud, 2008).

BRIEF LITERATURE REVIEW

Content

The field of ethics is a subset of philosophy whereby individuals can engage in reflection and answering the question, how might I live the good life (Pojman & Fieser, 2006)? Defining the good life may be a challenge for many as moral decision-makers struggle with doing the right thing in spite of moral ambiguity and competing interests. For example, when choosing whether or not to torture prisoners who are potential terrorists, should an individual choose that such an option is dishonorable or that the consequences of not obtaining information important to the protection of our society is more pressing (Greenberg & Dratel, 2005)? This source illustrates the level of difficulty moral decision-makers encounter while choosing between two competing legitimate interests.

If honor is a virtue that we hold as moral decision-makers, do we view honor as an absolute not subject to dilution regardless of the situation (Olsthoorn, 2011)? This source and question is important to consider as the definition of honor can differ based on cultural and situational contexts.

If moral concepts such as honor are variable given the situation, do such concepts lose all meaning when attempting to make decisions regarding candor and the handling of the truth (Frankfurt, 2005; Wong & Garass, 2015; Paolozzi, 2013)? These sources and question support personal reflection as moral decision-makers attempt to gain understanding of how honor might be applied to situations through the handling of the truth. If being truthful is simply a subset of honor and how a person's moral philosophy is applied, how can one come to a deeper and broader understanding of their moral philosophy and use it in their daily lives (Svara, 2007; McConnell & Westgate, 2018)?

These sources and questions illustrate how ethics instruction is ultimately a practical endeavor equipping learners to apply these concepts in the uncertain environments they will face. Such endeavors become especially important for military scholars who may find themselves applying their moral philosophy in the uncertain environment of combat which is often rife with moral ambiguity. In such morally ambiguous situations, individuals might well be served to gain understanding how they approach moral decision-making. The ethical triangle (see figure 1) illustrates how individuals may have a proclivity for viewing morally ambiguous situations starting from one perspective and using the other perspectives as a check. For example, if a moral decision-maker starts from the virtue perspective, they might feel uncomfortable explaining their actions to their mother wanting to demonstrate honorable

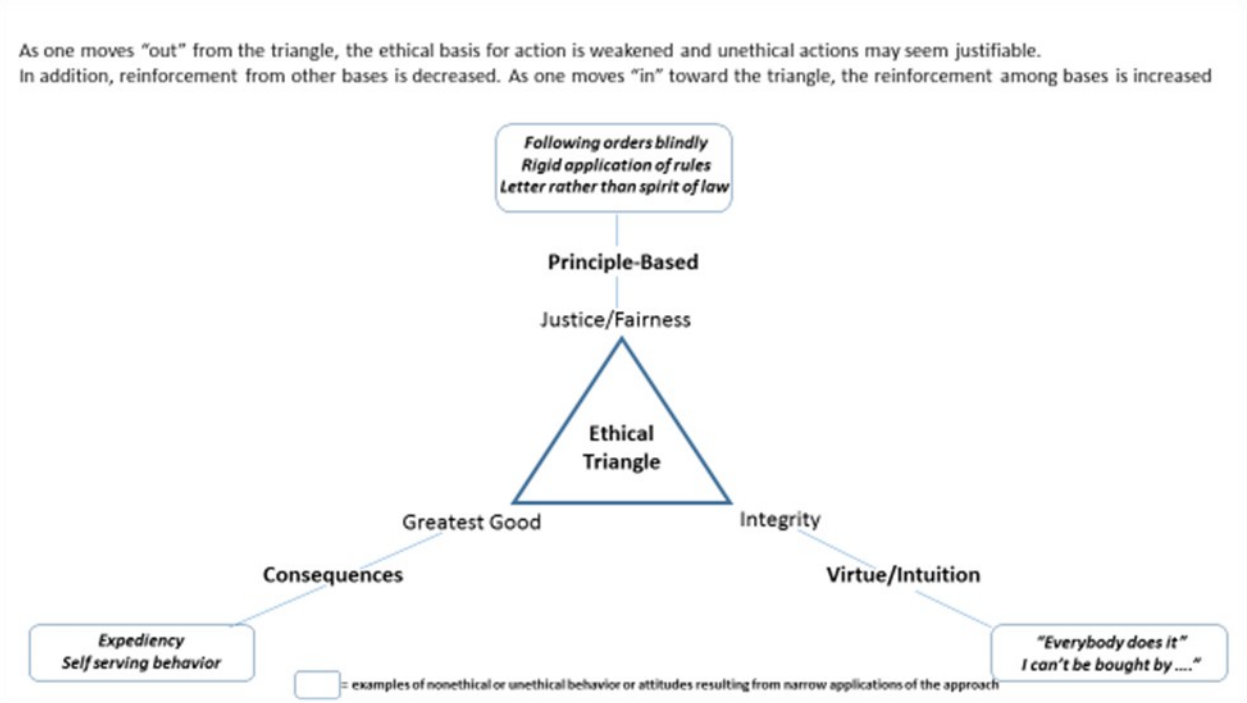


Figure 1: The ethical triangle. The figure depicts three ways individuals view ethical dilemmas. Principles-based deals with rules, virtues/intuition deals with wanting to live the good life by being virtuous, and consequences deals with looking at outcomes when selecting options (Svara, 2007).

conduct. They might then look to see if there are rules governing the option they are considering as an independent check of the validity of a considered action. The same decision-maker might also be able to use the consequences to check their virtue-based approach.

These literature sources are offered to illustrate the myriad approaches to moral decision-making as well as the practical nature of ethical concepts. As stated in the problem statement, people have moral philosophies but many do not know what they are. Therefore, engaging in ethics instruction designed to encourage learners to apply the concepts practically through gaming may be an effective way of teaching these concepts.

Efficacy of game-based pedagogy in higher education is a growing field of inquiry. The Army as an institution is also examining the utility of a game-based approach to education and training. Games are often used as a part of a virtual training setting and can inform both individual and collective experiences to improve capabilities. Such game based approaches can be useful in events in live real time or computer driven educational contexts (Department of the Army, 2016).

Schwartz and Gurung (2012) summarize the efficacy of games and simulations in higher education, particularly when previous instruction and experience provides the basis for making in-game decisions. Long (2011) demonstrates the effectiveness of the gaming to familiarize military officers in the Command & General Staff College with complex professional relevant scenarios.

McConnell (et.al, 2011) call for a broad educational based approach to exposing officers to multiple modes of thinking in order to equip them with the cognitive skills needed to understand, appreciate and thrive in environments characterized by chaos, uncertainty, time pressure and competing values.

The Army's doctrinal operational baseline document Operations field manual, *FM 3.0 Operations*, describes the Army's planning and problem solving methods as the Military Decision Making Process (MDMP). It describes the environmental frame as the context in which problems are bound and in which solutions must compete to be viable and successful. It describes a problem-frame as the leader's vision of the type, scope and magnitude of the challenge at hand. The initial stages of the MDMP are a cognitive exercise in creative and critical thinking to get these two crucial frames of reference established to provide context for the problem-solving process that follows. When officers are confronted with situations that do not easily conform to their experience base, they experience a challenge in getting satisfactory environmental and problem frames established from which to proceed. The Army's *Learning Concept* (TP 525-8-2; 2010) calls for the use of experiential learning in the classroom to accelerate learning.

Paparone and Topic (2011) discuss the importance of developing reflective learning skills in Army professionals at the organizational leader level. They examine why a simple continuation of the cognitive skills and strategies learned at the direct leader level are inadequate and often problematic in developing deeper and more nuanced perspectives on complex problems. They discuss the need for multiple perspectives, open-ended questions and the avoidance of a rush to certainty in order to achieve these skills.

Crandall, Klein, and Hoffman (2006) describe how tactical decision games (TDG) can be used to expose the processes of formal decision making in organizations as a baseline for conducting critical thinking and as reinforcement of norms for training purposes. By crafting decision games to expose biases, assumptions and chains of reasoning, student reasoning can be explored in detail during a process of reflective learning.

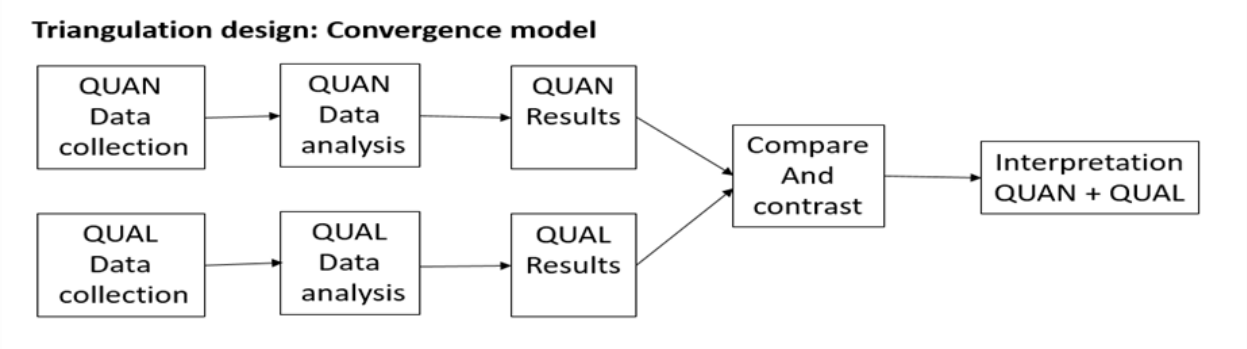
Methodology and Design

The method for this study is a mixed methods examination of student capabilities to grasp and apply specific ethical concepts through playing the ethics game (see appendix A). This study is a part of a Program Evaluation Plan (PEP) of ethics instruction at the Command and General Staff College (CGSC) (See appendix B). In the Command and General Staff College (CGSC), academic teams consist of 64 students organized into four 16 person groups. The test group consisted of four 16-person groups from one 64-person student team within the CGSC who played the ethics game as a part of Core curriculum, Ethical Dimensions of Organizational Leadership instruction. The control group consisted of four 16-person groups from one 64-person student team within the CGSC who did not play the ethics game but received, Ethical Dimensions of Organizational Leadership as published in the lesson plan.

Data collection from the control, test, and silent witness groups was accomplished using pre and post tests administered through the BlackBoard™ Enterprise Survey system. All test and control participants received an email with a link inviting them to take the pretest prior to instruction (see appendix C). After the classroom curriculum was provided, the test and control groups, received an email with a link inviting them to take the posttest (see appendix C). Additionally, the silent observers received emails with a link to complete a post instruction questionnaire (see appendix E). Although not a part of data collection, the silent observers completed an analog feedback form (see appendix F) and provide it to the instructor to assist improving their classroom performance as a part of this Program evaluation. All participant personal identifying information was hidden from researchers by design using the BlackBoard™ Enterprise Survey system.

Creswell and Plano-Clark (2007) describes ten guidelines and four broad designs for designing mixed methods research across multiple disciplines. Although some explanatory insights may emerge from the qualitative after-action reviewing concerning the performance of students on the objective assessment, this study follows the Triangulation design. Triangulation design includes Convergence model and assessed the objective effects of pedagogical choice on assessment outcomes. Additionally, the aim of the

qualitative data analysis was to achieve improvement in lesson design and delivery of both the traditional lesson and the gaming lesson. The Convergence Model is a traditional means of examining results to better understand the phenomenon, which in this case is the efficacy of the game-based approach to pedagogy for professional ethics. Challenges in this mixed method approach include determining the weights to place on the two categories of data, and a strategy to interpret/mix the analytical insights to make meaning. These can be addressed by employing a team that offers multiple perspectives and experience in both quantitative and qualitative methods as well as the professional insights of the participants.



Source of Figure: Ken Long

Playing the Ethics Game

The test group played the ethics game as an experiential learning approach to grasping ethical concepts. Faculty facilitated the process by dividing the 16 student class into four groups of four persons each. Each group was presented with a moral dilemma to solve outside of class. Each group was expected to come to class with their recommended solution to their moral dilemma as well as a methodology for grading the responses of their colleagues. The ethics game consisted of four turns. Each four-person group would play for three turns and grade their colleagues for one turn. A turn consisted of a group presenting to the other three groups their moral dilemma and giving them 10 minutes to determine their solution employing the ethical triangle. After 10 minutes each group received two minutes each to present their solution and the group that was grading their responses had the option to award a total of 10 points for all three responses. For example, one group might receive five points as the best response, leaving the remaining five points to be divided between the other two groups. The score for each group was recorded and then the next group would present their moral dilemma for the other three groups to solve. At the end of all four turns the points were tallied to determine which group solved the moral dilemma using the ethical triangle the most effectively. The second hour of instruction was used to process what happened during the game.

Data Collection

Data was captured by a combination of four instruments: Pre and post tests, silent witness observations, and a faculty focus group (See appendix for instruments). Pre and post tests were mixed methods instruments provided to student participants. The silent witnesses were employed from other teaching teams not involved with the study providing qualitative observations. Faculty from the two teaching teams involved in the study were provided qualitative observations. The faculty focus group consisted of four experienced faculty members with over 10 years of teaching experience.

Scope

The research sample consisted of males and females from the ranks of Captain's selected for promotion to major and Majors attending as students in academic year 2019. Students were previously randomized into their respective staff groups by basic branch, ethnicity, and gender at the start of the academic year. The research include interservice, international officers and other U.S. governmental employees attending CGSC should they be in the test staff groups.

CGSC student officers generally have between nine and eleven years of active commissioned service. Amongst the test and control groups, the lowest total time in service was six years and the highest was eighteen years of service (in this case it includes a significant amount of prior enlisted service). All US Army officers attending CGSC have completed a company command or equivalent qualifying position leading 50-250 Soldiers.

Previous professional military education (PME) includes a pre-commissioning training (Reserve Officer Training Course, Officer Candidate School, United States Military Academy), Basic Officer Leader Course (BOLC) for their respective Army specialty and the Captains Career Course (CCC). During previous PME, US Army students would have had limited exposure to the ethical models presented in L102.

During pre-commissioning training US Army Officers receive significant training on leadership, this training is based on the leadership manuals that are in use by the Army at the time the students are undergoing their training. For most of the students participating in this study, the leadership manual in use at the time of their pre-commissioning training and BOLC had a total of two

and a half pages devoted to ethics, of which less than one page was devoted to ethical reasoning. By the time this cohort attended the CCC a new leadership manual was in use. It contained slightly less content on ethics. The ethical models received a total of one paragraph of attention in both manuals. A full evaluation of ethical training for US Army officers and ethics instruction for the rest of the Armed Services is outside the scope of this study.

Outside of PME students exposure to ethical reasoning will have varied based on type of unit and experiences. The US Army's Center for the Army Profession and Ethic (CAPE) and its predecessor organization were established in 2008. Various training and support packages have slowly become available over time. Unit usage of these materials is based on a variety of factors. CAPE's wide charter also lends itself to a large variety of subjects. Training material on ethical reasoning is available but the student's previous exposure to it cannot be measured.

Potential Limitations to a Quantitative Survey Based Study

This study may have been limited by the willingness of test subjects to participate in the study. However, since this study is a program evaluation, informed consent is not required. Additionally, students in the test group might be encouraged to participate because playing a game may be viewed as a more enjoyable way to learn ethical concepts.

Significance to Scholarship, Leadership, and Practice

Determining more effective ways to convey complex concepts to students in a manner that might have caused them to grasp and to apply that information constitutes a significant contribution to scholarship. Especially within the military profession where leaders are confronted with moral ambiguity in complex and potentially dangerous situations, understanding of moral philosophies and ethical concepts is an important endeavor. In light of numerous challenges within the military profession where leaders have failed in applying ethical concepts effectively, teaching ethical concepts to students at CGSC in a way that encourages meaningful application may support precluding future moral failures among senior leaders (Winter, 2012; Whitlock, 2013; Mulrine, 2014; Whitlock & Uhrmacher, 2018).

RESULTS

Introduction

The analysis of the findings in this study suggest that the hypothesis (H1) and the null (H2) were conditionally supported i.e both traditional case study as well as ethics game play- supported instruction were shown to be effective under certain conditions. For example, data collected during the pre-and posttests showed that the quantitative mean for the test group increased slightly while the control group decreased to a greater extent. Research questions R1 through R5 were answered. R1 & 2: student level of understanding demonstrated through personal growth and self-awareness of the ethical concepts was established through the mixed method instruments administered to the test and control groups (see detailed analysis below). R3-5: feedback obtained from the qualitative portions of the instruments administered as well as after action reviews conducted indicated student, faculty, and outside observer perceptions of the utility of using both gaming and case study approaches. These observations provided descriptions of how both gaming and case study approaches might be improved for ethics instruction.

Student Pre and Post Test Quantitative Results

Pretest

Histograms (see appendix H)

For every question, the most common answer was 5, "Always" with two exceptions for test and control, where the most common answer was 4, "Mostly".. The answer distributions for most of the questions look similar between Control and Test.
Mann-Whitney Test (see appendix F)

H0: Test and Control Group distributions are the same
H1: Test and Control Group distributions are different
$\alpha = .05$

This test showed a significant difference only in Question # 10 ($p = .028$). This would confirm that Test and Control groups are the same for Pretest. Analyses of these findings suggest that the test and control understood and applied the ethical frameworks that were the subject of the L102 ethics instruction similarly. In other words, most participants in the test and control groups indicated that they made ethical choices using principles, consequences, and virtues "Mostly" or "Always."

Posttest

Histograms (see appendix H)

In most cases, the control group changed shape more than the test group, and looking at the difference in the means, in

virtually every case, the control group's mean changed more than the test group's.

In almost every case the mean *decreased* from pre- to post- for the control group but *increased* from pre- to post- for the test group (exceptions were question #s 10 and 12 where the test group mean stayed the same, and question #s 14 and 15 where the test group mean decreased, but much less than the control group's mean). Similarly, the median score for Test stayed the same from pretest to posttest with the exception of Question 10, where it decreased from "Always" to "Mostly", but the Control group's median scores decreased for every question except for two (Question #s 4 and 15) where it stayed at "Mostly". Analyses of these findings suggest that the control group and the test group diverged in their preference for using the ethical frameworks that were the subject of the L102 ethics instruction. This is illustrated by looking at the most common answers, or modes, for each question. The two questions for Test group where the most common answer was "Mostly" rather than "Always" changed to "Always" for the post-test leaving "Always" as the most common answer for every question. In contrast, for the control group, the most common answer changed for nine questions in the post-test leaving only six with "Always" as the most common answer, four with "Mostly", four with "Never", and three with "Often (two of the questions had ties for the most common answer).These findings may indicate that the test gained more understanding/personal growth because of the treatment of learning ethics through game play.

Mann-Whitney Test (see appendix G)

H0: Test and Control Group distributions are the same
H1: Test and Control Group distributions are different
$\alpha = .05$

The majority of questions showed a significant difference between Test and Control (nine questions: #s 1, 4, 5, 7, 10, 11, 12, 13, and 14). Control group had a lower mean rank than Test group for every question, meaning that the answers for Control were lower than the answers for Test, on average. Analyses of these findings support the above Histogram findings that the control group scores not only decreased but established the magnitude of decrease was greater that the increase experienced by the test. This finding may be an indication that the control group had more scores to decrease than the test had to increase. In other words, the test could only increase from "Mostly" or "Always" to "Always" whereas the control group had the range available to decrease farther.

Wilcoxon Signed-Rank Tests for Pre- and Post-Test Matched Pairs Data for Control and Test Groups by Question (see appendix J)

H0: medians for pretest and posttest are the same
H1: medians for pretest and posttest are different
$\alpha = .05$

This test measured the differences between pre-test and post-test for each participant to see whether Control or Test group changed more. In five questions, there was a significant change: Questions #1, 12, 14, and 15 for Control group, and Question #4 for Test group. Additionally, the mean difference was greater for Control group than for Test group in all but three questions: #s 4, 11, and 13.

A matched-pairs t-test yielded similar results for change in means.

These results seem to indicate that Control group changed more than the Test group following ethics instruction. Analyses of these findings support the above Histogram and Mann-Whitney Test findings that the control group mean scores not only decreased but established the magnitude of decrease was greater that the increase experienced by the test. These findings also confirmed that these findings might be an indication that the control group had more scores to decrease than the test had to increase: Test could only increase from "Mostly" or "Always" to "Always" – the control group had the range available to decrease farther.

Analysis of this quantitative data for the pre-and posttest suggests that students in the control and test groups were both influenced by the teachings/facilitation method that they received. These results can be interpreted in ways that suggest that the hypothesis (H1) and the null (H2) were both conditionally supportable. For the control, their change from mostly and always too often might indicate that they are more reflective on how often they use that model for ethical choices. For the test, their commitment to making ethical choices mostly and always both in the pre-and posttests could indicate a higher level of confidence in their preference for how to make ethical choices. Of note, both quantitative results could be interpreted as personal growth. Therefore, these quantitative results seem to support both the hypothesis (H1) and the null (H2).

Student Pre and Post Test Quantitative Triangle Results

During the pre-and posttests the control and test groups were asked to click their mouse on a depiction of the ethical triangle to indicate their preferences for making ethical choices. In appendix D, the pre-and Post-test assessment shows the triangle instrument as an option under question 16. Figure 2 is a depiction of what the control and test groups selected as averaged for each group quantitatively. Analysis of this quantitative data shows that the control group started closer to principles and moved closer to principles in the posttest. That same analysis also showed that the test group started closer to virtues and moved closer to virtues in the posttest (see zoomed in view figure 2). Both the test and the control stayed in the general average circle around the centroid but demonstrated a preference for one of two different corners of the ethical triangle. For those familiar with the military institution, these findings are not particularly surprising that military professionals might prefer either principles are virtues for solving moral

dilemmas. Both the test and the control demonstrated personal growth by changing between the pre-and post-tests. Analysis of this quantitative data suggests that both the traditional case study and the ethics game approaches can be effective methods of teaching ethics sense both groups demonstrated personal growth by changing because of the treatment. Therefore, these quantitative results seem to support both the hypothesis (H1) and the null (H2).

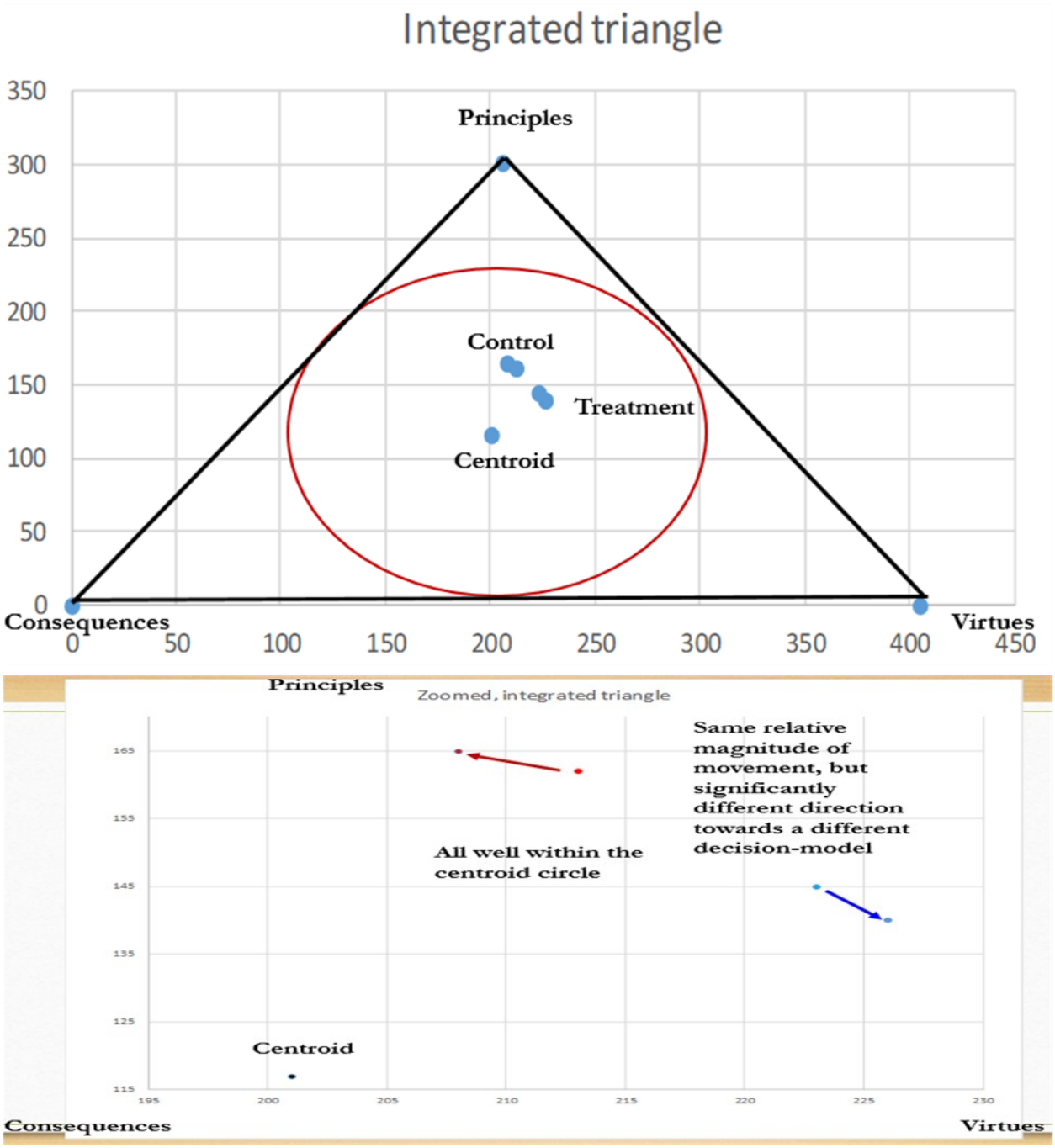


Figure 2: Quantitative Triangle Data Collection Instrument (with zoomed in view)

Student Pre and Post Test Qualitative Results

Perhaps one of the most significant qualitative results were discovered through analysis of the posttest. In response to question number 18 (What aspects of L102 should be changed? – See appendix K) test and control group participants made comments about how the treatment caused them to better understand the material. Three respondents in the control group claimed they understood the material better because of the treatment whereas the test group had 10 respondents claim they experienced improved understanding. Therefore, analysis of the data suggests that test group participants were three times more likely to believe they better understood the concepts of the is a result of the treatment. This qualitative result appeared to support the hypothesis (H1)

that test group participants outperformed the control.

Faculty Silent Observer Results

Figure 3 is a description of the silent Observer results/themes. Under the category of strong points for both approaches, for the traditional case study model, silent observers commented that historical videos in instructor facilitated discussion was effective. For the ethics game approach, silent observers witnessed exceptional levels of student engagement where everyone spoke and faculty were able to manage and reinforce important points while student excursions into additional topics were interesting. Analysis of this qualitative data suggests that although both case study and ethics game facilitated discussions were both effective, students seemed to be more engaged when participating in ethics game facilitated learning. This qualitative result appeared to support both the hypothesis (H1) and the null (H2).

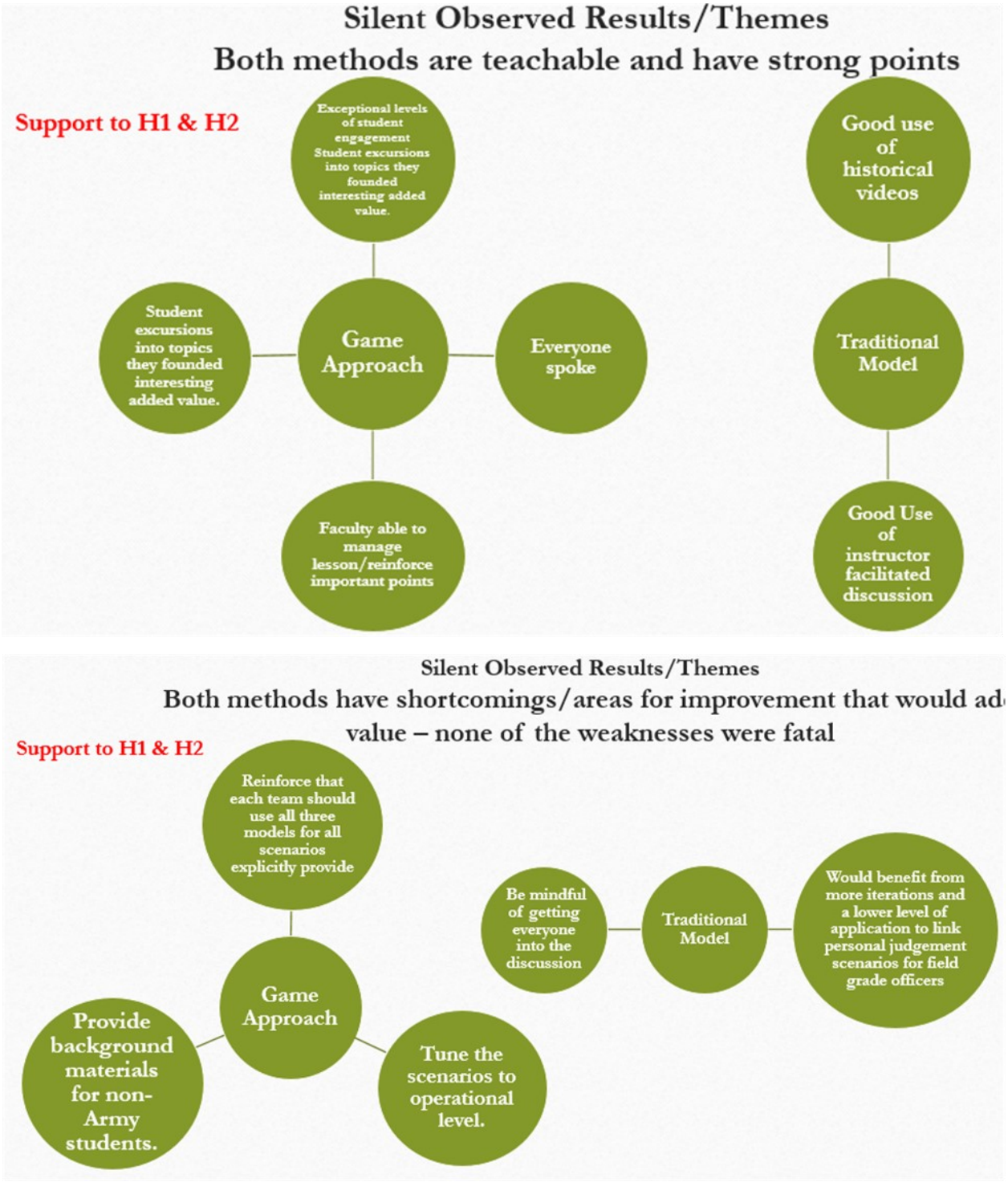


Figure 3: Silent Observer Results/Themes (strong points and areas for improvement)

Under the category of shortcomings/areas for improvement, for the traditional case study model, silent observers commented that more iterations, scenarios linked to personal judgment, and effort expended to get all participants in the discussion would be beneficial. For the ethics game approach, silent observers recommended that students should be encouraged to use all portions of the ethics triangle, the scenarios should be updated to provide operational level challenges, and that non-Army students might benefit from more background material prior to gameplay. Analysis of this qualitative data suggests that although both case study and ethics game facilitated discussions were both effective, students seemed to be more engaged when participating in ethics game facilitated learning. This qualitative result appeared to support both the hypothesis (H1) and the null (H2).

Faculty Focus Group Observations

Figure 4 is a description of the faculty focus group results/themes. Four experienced faculty members participated in a focus group following observation of both the case study and ethics game facilitated instruction of ethics. Three out of four faculty members agreed on five general themes regarding these methods of instruction. The qualitative observations of the faculty focus group agreed that both models achieve educational outcomes. However, the gameplay model increase student ownership, anticipation, critical thinking, and student communication skills. Analysis of this qualitative data suggests that although both case study and ethics game facilitated discussions were both effective, students seemed to be more engaged when participating in ethics game facilitated learning. Furthermore, the increased level of participation, critical thinking, and communication of the ethics game approach suggests that instruction using gaming was more experiential in nature and therefore potentially more effective. This qualitative result appeared to support both the hypothesis (H1) and the null (H2).

Figure 4: Faculty Focus Group Results/Themes

Evaluation of Results

The mixed method approach applied to the program evaluation of ethics instruction at CGSC has yielded results the interpretation of which support more than one mode of instruction. The pre-and posttests of the test and control group show that learning outcomes were supported for both modes of instruction (case study and ethics game facilitated learning). Additionally, the quantitative triangle results indicate personal growth for both the test and the control. These quantitative findings suggest that instructors might judiciously select either mode of instruction and still achieve the desired learning outcomes. However, the qualitative findings yielded through the open ended questions in the posttest, the faculty silent Observer, and the faculty focus group indicate a preference for the ethics game facilitated learning. Increased levels of student engagement, critical thinking, and communication skills suggest a more dynamic am and engaging learning environment for students. Since some students find ethics instruction somewhat challenging, perhaps faculty members might be well advised to consider the experiential approach to ethics instruction using gaming is a viable option.

IMPLICATIONS, RECOMMENDATIONS, CONCLUSIONS

Introduction

As mentioned earlier in this report, ethics instruction can be challenging both for students and faculty. Therefore, exploring ways to make this field of study more accessible and practical might be worthy of investigation. Ethics is not merely a scholarly pursuit reserved only for philosophers. Ethics and the formulation of personal moral philosophies is for everyone. We live in a complicated world filled with ambiguity and tough moral choices. These choices start at early age and continued throughout life. These choices unfold in the complicated and competitive environment that all people face. Teaching students to grapple with ethical choices while having to think on their feet in the competitive environment of gaming may be an appropriate way to improve moral philosophy formulation. This study has demonstrated that further investigation into this field is warranted.

Implications

The applicability of ethics instruction for leaders seems self-evident. Leaders in all types of disciplines regularly must make tough choices in an environment of ambiguity and competing resources. Thus, employing ethics instruction as part of a leader development program within an organization could be a valuable way for the senior leaders of that group to reinforce the values of their institution. But why should educators only consider this type of endeavor for adults? It seems that educators only engage in ethics education at higher learning institutions. Discussions of morality for younger people seem reserved to institutions of faith. This need not be the case. If discussions of ethics and how to for moral philosophies could take place at a younger age, perhaps inculcating these types of values into organizational members after their grown might be less of a challenge.

Recommendations

Further research in the field of ethics instruction is needed. Scholars interested in this area of research might consider further investigation into instructional methods using games using an action research approach. Additionally, primary and secondary level educators might consider survey based mixed methods approaches examining ethics instruction for elementary and high school level learners. Finally, the quantitative triangle instrument employed in this study can be further developed for other fields of inquiry as a method for examining qualitative data using quantitative means. Preliminary inquiry into such a method of examining qualitative data using qualitative means is the subject of a paper to be submitted for publication in the coming ABSEL Annual Conference Proceedings in the spring of 2020.

Conclusions

Hardly a day goes by without some example in the news of ethical or moral failures by somebody. Some might reflect on how these individuals might have been so ethically confused as to select an option that many would consider obviously morally wrong. Perhaps no one should be surprised since the discussion of ethics is usually reserved for college-level philosophy classes. This need not be the case. The instruction of challenging material using gaming, whether it be ethics, math, or animal husbandry; is an under researched endeavor. Perhaps more instruction should employ gaming thus making learning fun and ultimately making those learning outcomes stick.

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APPENDIX A: ETHICS GAME.

Ethics curriculum content
- Concepts
- Terms
- Processes

level of mastery

Before → **After**

Assessment of mastery
- Objective
- Interpreted
  - Self (Can I apply the Triangle and concepts?)
  - Peers (Can most of my peers apply…?)
  - Faculty (Did the officers apply…?)
  - Observer (How did it go?)

4 scenarios where professional ethics are engaged
- Typical, significant issue
- Max ½ page of content details
- Commander asking staff to apply the triangle
- Commander asking for a recommendation/synthesis

	Team 1	Team 2	Team 3	Team 4
Round 1	J	W	W	W
Round 2	W	J	W	W
Round 3	W	W	J	W
Round 4	W	W	W	J

Homework

Common reading

Prepare notes on your scenario that your team will judge the other 3

Handout specifying the strict rules of the game

You will integrate your notes with your team in class to create a scenario rubric for the scenario you judge

1. 10 min: each team collaborates to integrate their solution/notes for their scenario
2. 4 scenarios. 4 rounds., 50 min for each round, 1 scenario examined in each round
3. **Each round:** 1 team judging, 3 teams working
4. **Sequence of each round**: (25 min each round)
   1. Prep: Receive scenario; 5 min to develop an opening position
   2. Opening statements: 1 min for each group to make opening statement
   3. Question prep: 1 min to prepare 1 question for each of the other 2 teams
   4. Question round 1: A->B, B-> C, C-> A 10 sec to ask , 10 sec to think, 30 sec to answer
   5. Question round 2: A->C, C->B, B-> A; 10 sec to ask, 10 sec to think, 30 sec to answer
   6. Closing prep: 2 min to prepare
   7. Closing remarks: each team 30 sec closing remarks
5. **Judging (each round):** 5 min
   1. Judges: 1 min to cast your scores
   2. Explanation: each judge 30 sec to justify your scores (2 min)
   3. Each team: 1 min to make notes about fairness and justice
6. **Final judging**: 1 min for each person to judge the 3 other teams on overall performance, body of work
   1. Each person pick a best and worst team, vote by secret ballot
7. **Final score tabulation:** compare expert judges and studio audience
8. **Discussion:**

Constraints

Each opening statement must address all 3 elements of the ethical triangle and a recommendation to the commander for how to proceed. Each team member must speak in each scenario

Judgment criteria:

Opening statement: referred to all 3 elements of the Triangle? logical? Organized? Communication style and effectiveness?

Questions: Meaningful, relevant, important and professional?

Answers: Answered the question asked, professional, correctly applied the triangle, clear and persuasive

Summary: Logical, persuasive, professional, effective

Hypothesis: each person
- Individual deep prep and also a member of a team
- Speaks each round
- Peer judgment
- 1 detailed, 3 rapid applications
- Develop confidence and ability to rapidly & professionally assess, discuss, justify, critique

APPENDIX B: PROGRAM EVALUATION PLAN (PEP).

CGSOC Fort Leavenworth AY 2019 Program Evaluation Plan (PEP) examining learning outcomes of traditional ethics instruction compared to teaching ethics through gaming

Program Description/Evaluation Context. Faculty members from Fort Leavenworth CGSOC (Departments: DTAC, DLRO, & DCL) will conduct a PEP of the L102 Ethical Dimensions of Organizational Leadership ethics instruction using traditional means and comparing them to the experiential learning process using simple analog gaming. The specific context is two teaching teams consisting of 64 students each at Fort Leavenworth resident CGSOC campus.

Evaluation purpose. The purpose of this evaluation is to check the validity of the teaching process for ethics instruction at CGSOC by comparing and contrasting learning outcomes from two different types of instructional methods. Specifically, comparing the contexts of ethics instruction using the instructional techniques employed for all classes at CGSOC versus teaching ethics by employing simple analog games.

Data collection tools. Researchers during this program evaluation will employ online instruments for students and faculty to respond to using BlackBoard® platform. These instruments will consist of student completed pre-and post-tests (quantitative data) as well as faculty completed silent witness observations (qualitative data). Additionally, researchers from University of Pittsburgh, Pittsburgh Pennsylvania will conduct a similar study in their institution and researchers at CGSC will include their observations as data supporting this program evaluation.

Methodology. Researchers during this program evaluation will employ a mixed methods approach including both qualitative and quantitative data. Student participants for this study will be supplied from two teaching teams. One teaching team will consist of the test group, while the other teaching team will be the control. The test group will receive the ethics instruction by playing an ethics game to be designed by the researchers in this study. The control group will receive ethics instruction as designed by DCL as per the L102 lesson plan. Both test and control will receive a pre-and post-test and researchers will analyze, compare and contrast, learning outcomes between the test and the control to evaluate effectiveness and validity of the process.

Evaluation Milestones. Data collection will be completed by end of October 2018. Data analysis will be completed by the end of February 2019. Research report will be complete by end of March 2019.

Points of Contact.

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Appendix C: Pre and Post test Assessment Strategy.

Assessment strategy for the "Ethics Game"

Initial concept:

This model is adapted from Dr Peter Fascione, of Insight Assessment Inc, the leading purveyor of critical thinking instruments, the California Critical Thinking Disposition Inventory (CCTDI), and the version they adapted for specific military use, the Military-Defense Critical Thinking Inventory.

These two industry standards for assessing Critical thinking assess two dimensions:

Content knowledge: understanding of concepts, terms, processes, models

Disposition/willingness to use them

We propose to adapt this approach to Professional Ethics by posing 15 questions to the study participants designed to identify their preferences for ethical decision making between principles, virtues, and consequences. Any changes between the pre and post tests may indicate personal growth acquired through instruction which then can be applied to data analysis of the test and control groups.

We will develop reasonable objective measures of knowledge at the comprehension level of knowledge for Content Mastery. We will use a 6 point Likert scale for assessing dispositions

As part of the after action process/Data collection we plan to provide open ended question surveys to students, faculty and silent observers in order to capture themes and insights of the classroom activity. Silent observers on the writing team will be the faculty members not from the teaching team. We believe this triangle of observers and participants may give us useful insights for learning how to improve both the traditional lesson and the game-based lesson as well as provide triangulation of observation sources.

Readings and prep work will be made as identical as possible in terms of workload, although there may be some procedural prep work required for the treatment group in order to meet the timelines available for instruction. These procedural prep work will consist of "how to play the game" and will not be addressing cognitive content about Professional Ethics and the Ethical Triangle

We will use a control group and a test group (2 groups of 64 each from 2 different teaching teams), with independent faculty members acting as instructors and observers to create the 3 sources of feedback

We will fully develop the assessment instruments through detailed coordination with the leadership department, informed by the academic references below (which includes the text used by this college for Advanced Faculty Development Program.

References:

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APPENDIX D:
PRE AND POST TEST ASSESSMENT.

I make ethical decisions this way:

Never	Rarely	Sometimes	Often	Mostly	Always
0	1	2	3	4	5

Questions for Pre and Post Tests: Quantitative

1. MAJ Smith considered falsifying some of the numbers on his USR but chose not to because he believed that those actions would not be honorable.

2. MAJ Smith considered falsifying some of the numbers on his USR but chose not to because he believed that those actions would violate Army regulations for reporting.

3. MAJ Smith considered falsifying some of the numbers on his USR but chose not to because he believed that those actions would not be good for anyone in the unit.

4. CPT Jones was tempted to look the other way when she was made aware that sensitive item inventories were not conducted to standard but decided not to because she did not want to be considered dishonest.

5. CPT Jones was tempted to look the other way when she was made aware that sensitive item inventories were not conducted to standard but decided not to because she knew it would violate the regulations concerning sensitive items accountability.

6. CPT Jones was tempted to look the other way when she was made aware that sensitive item inventories were not conducted to standard but decided not to because she worried about the ramifications of lost sensitive items.

7. MAJ Ramsey considered reporting an inflated training area utilization rate to the installation but decided not to because it would be taking an unfair advantage over other unit leaders.

8. MAJ Ramsey considered reporting an inflated training area utilization rate to the installation but decided not to because it would violate installation training areas utilization guidance.

9. MAJ Ramsey considered reporting an inflated training area utilization rate to the installation but decided not to because he realized that if everyone did this, it might damage the division's ability to train all units on post.

10. MAJ Downs was tempted to not investigate allegations of pilferage at the dining facility because she held the NCOIC in high regard but decided to investigate because not to do so would make it hard for her to look at herself in the mirror.

11. MAJ Downs was tempted to not investigate allegations of pilferage at the dining facility because she held the NCOIC in high regard but decided to investigate because her legal counsel advised her that to not investigate might indicate dereliction of duty.

12. MAJ Downs was tempted to not investigate allegations of pilferage at the dining facility because she held the NCOIC in high regard but decided to investigate because the possible improper running of the DFAC could adversely impact the entire brigade.

13. CPT Scott witnessed a violation of the Rules of Engagement resulting in a local civilian death by an adjacent unit commanded by a close friend and considered not reporting it but decided to report it because he imagined how he would feel if his father or mother knew about his actions.

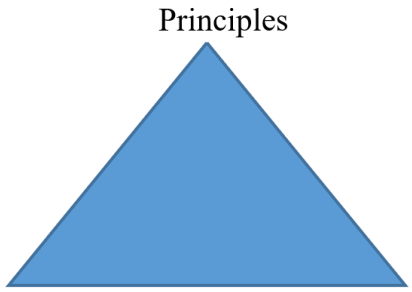
14. CPT Scott witnessed a violation of the Rules of Engagement resulting in a local civilian death by an adjacent unit commanded by a close friend and considered not reporting it but decided to do so because he knew this was a clear violation of the ROE.

15. CPT Scott witnessed a violation of the Rules of Engagement resulting in a local civilian death by an adjacent unit commanded by a close friend and considered not reporting it but decided to do so because he knew that the ROE existed to protect everyone and that transcended personal loyalty.

Question for both pre and post tests: Qualitative

16. Most people approach ethical decisions with an initial preference for the ethical triangle. Some start from a virtue perspective, the principles, or the consequence. Please mark in the triangle below where you believe you start as a preference.

Post test question only: Qualitative



What aspects of L102 should be sustained?

What Aspects of L102 should be changed?

APPENDIX E:
ETHICS GAME STUDY AFTER ACTION QUESTIONS (SILENT WITNESSES GROUP).

Silent Witness questions:

1. I observed discussions regarding this principle:

Never	Rarely	Sometimes	Balanced	Mostly	Always
0	1	2	3	4	5

Virtue Ethics

Principles Ethics

Consequence Ethics

2. I observed professional judgement properly applied to moral dilemmas:
3. I observed a high level of student engagement compared to my experience with other CGSC discussion classes
4. I observed a high quality of FG officer communication skills to present persuasive professional arguments
5. I observed evidence of the application of Critical Reasoning/Creative Thinking techniques to support their arguments
6. What aspects of L102 should be sustained?

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7. What Aspects of L102 should be changed?

APPENDIX F:
PRETEST QUANTITATIVE DATA BY QUESTION.

Mann-Whitney Tests for Pretest Data by Question

H_0: Test and Control Group distributions are the same
H_1: Test and Control Group distributions are different

$\alpha = .05$

NPAR TESTS /MANN-WHITNEY=Pretest#1 BY Group("C","T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Pretest#1	52.00	58.00	110.00	56.48	54.62	2937.00	3168.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Pretest#1	1457.00	3168.00	-.33	.741

NPAR TESTS /MANN-WHITNEY=Pretest#2 BY Group("C","T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Pretest#2	52.00	58.00	110.00	60.08	51.40	3124.00	2981.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Pretest#2	1270.00	2981.00	-1.48	.139

NPAR TESTS /MANN-WHITNEY=Pretest#3 BY Group("C","T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Pretest#3	52.00	58.00	110.00	56.78	54.35	2952.50	3152.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Pretest#3	1441.50	3152.50	-.41	.683

NPAR TESTS /MANN-WHITNEY=Pretest#4 BY Group("C","T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Pretest#4	52.00	57.00	109.00	58.15	52.12	3024.00	2971.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Pretest#4	1318.00	2971.00	-1.04	.300

NPAR TESTS /MANN-WHITNEY=Pretest#5 BY Group("C","T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Pretest#5	52.00	58.00	110.00	57.11	54.06	2969.50	3135.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Pretest#5	1424.50	3135.50	-.53	.598

NPAR TESTS /MANN-WHITNEY=Pretest#6 BY Group("C","T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Pretest#6	52.00	58.00	110.00	57.24	53.94	2976.50	3128.50

APPENDIX G:
POSTTEST QUANTITATIVE DATA BY QUESTION.

Mann-Whitney Tests for Posttest Data by Question

H_0: Test and Control Group distributions are the same
H_1: Test and Control Group distributions are different

$\alpha = .05$

NPAR TESTS /MANN-WHITNEY=Posttest#1 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#1	52.00	57.00	109.00	46.62	62.65	2424.00	3571.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#1	1046.00	2424.00	-2.73	.006

NPAR TESTS /MANN-WHITNEY=Posttest#2 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#2	51.00	57.00	108.00	50.42	58.15	2571.50	3314.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#2	1245.50	2571.50	-1.31	.189

NPAR TESTS /MANN-WHITNEY=Posttest#3 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#3	52.00	57.00	109.00	50.26	59.32	2613.50	3381.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#3	1235.50	2613.50	-1.53	.126

NPAR TESTS /MANN-WHITNEY=Posttest#4 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#4	52.00	57.00	109.00	46.89	62.39	2438.50	3556.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#4	1060.50	2438.50	-2.64	.008

NPAR TESTS /MANN-WHITNEY=Posttest#5 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#5	52.00	56.00	108.00	47.65	60.86	2478.00	3408.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#5	1100.00	2478.00	-2.26	.024

NPAR TESTS /MANN-WHITNEY=Posttest#6 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#6	52.00	56.00	108.00	50.09	58.60	2604.50	3281.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#6	1226.50	2604.50	-1.45	.146

NPAR TESTS /MANN-WHITNEY=Posttest#7 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#7	52.00	56.00	108.00	48.35	60.21	2514.00	3372.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#7	1136.00	2514.00	-2.00	.046

NPAR TESTS /MANN-WHITNEY=Posttest#8 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#8	52.00	54.00	106.00	47.97	58.82	2494.50	3176.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#8	1116.50	2494.50	-1.85	.064

NPAR TESTS /MANN-WHITNEY=Posttest#9 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#9	52.00	56.00	108.00	49.05	59.56	2550.50	3335.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#9	1172.50	2550.50	-1.79	.074

NPAR TESTS /MANN-WHITNEY=Posttest#10 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#10	51.00	56.00	107.00	44.30	62.83	2259.50	3518.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#10	933.50	2259.50	-3.17	.002

NPAR TESTS /MANN-WHITNEY=Posttest#11 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#11	52.00	56.00	108.00	47.69	60.82	2480.00	3406.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#11	1102.00	2480.00	-2.24	.025

NPAR TESTS /MANN-WHITNEY=Posttest#12 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#12	52.00	56.00	108.00	47.22	61.26	2455.50	3430.50

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#12	1077.50	2455.50	-2.39	.017

NPAR TESTS /MANN-WHITNEY=Posttest#13 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#13	52.00	56.00	108.00	43.73	64.50	2274.00	3612.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#13	896.00	2274.00	-3.51	.000

NPAR TESTS /MANN-WHITNEY=Posttest#14 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#14	52.00	56.00	108.00	48.37	60.20	2515.00	3371.00

Test Statistics

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#14	1137.00	2515.00	-2.04	.041

NPAR TESTS /MANN-WHITNEY=Posttest#15 BY Group("C", "T").

Ranks

	N			Mean Rank		Sum of Ranks	
	C	T	Total	C	T	C	T
Posttest#15	52.00	56.00	108.00	48.65	59.93	2530.00	3356.00

Test Statistics

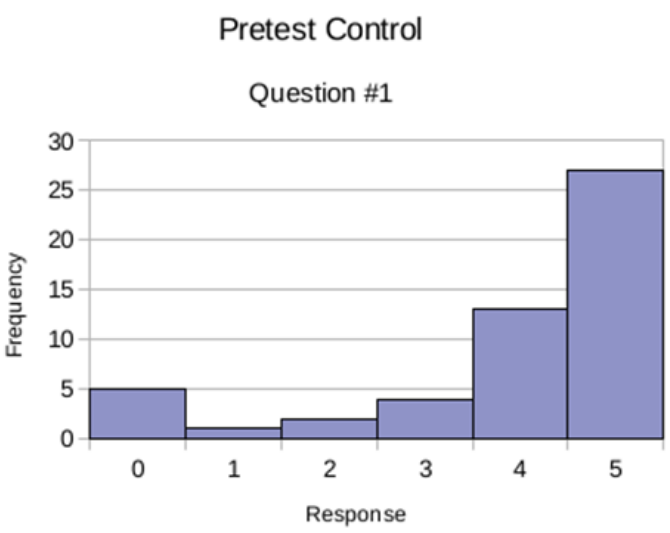
	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Posttest#15	1152.00	2530.00	-1.93	.054

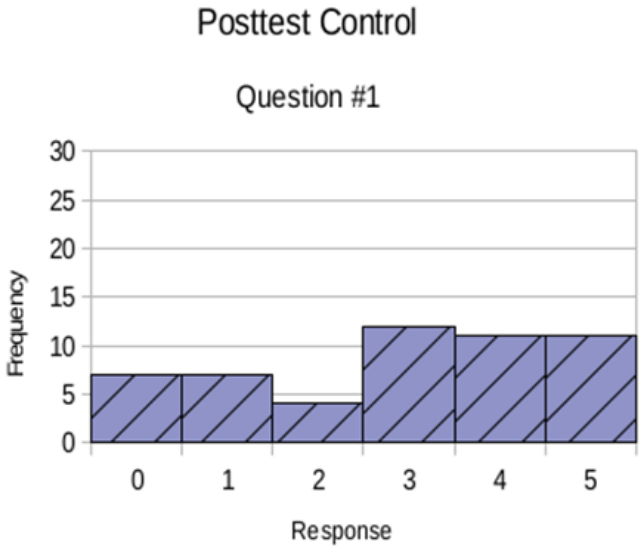
APPENDIX H:
PRE AND POSTTEST HISTOGRAMS.

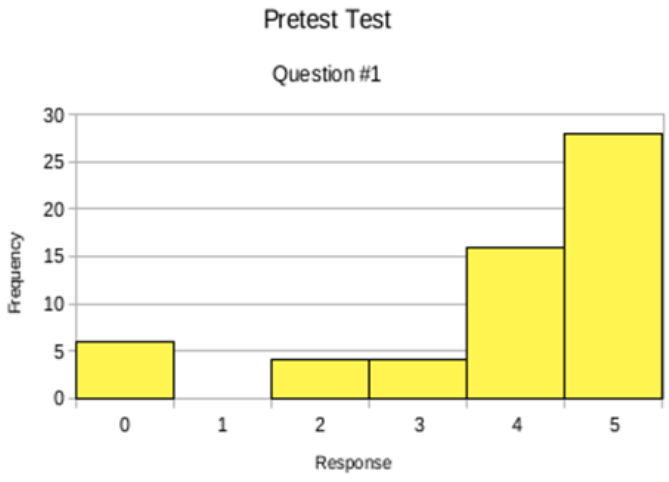
Pretest Control refers to Pretest answers for the Control Group
Pretest Test refers to Pretest answers for the Test Group
Posttest Control refers to Posttest answers for the Control Group
Posttest Test refers to Posttest answers for the Test Group

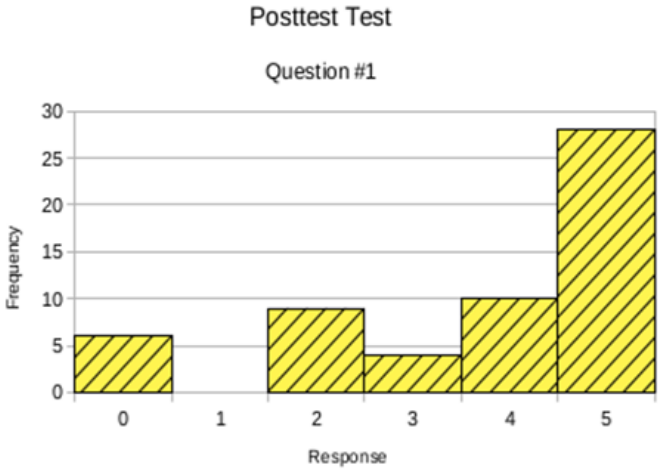
Responses: **5**: Always **4**: Mostly **3**: Often **2**: Sometimes **1**: Rarely **0**: Never

1. MAJ Smith considered falsifying some of the numbers on his USR but chose not to because he believed that those actions would not be honorable.

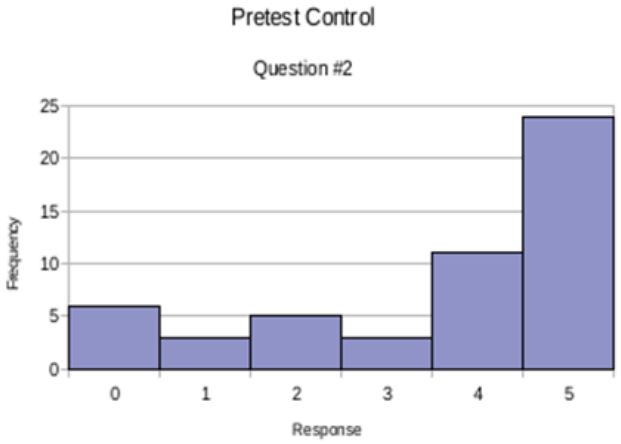


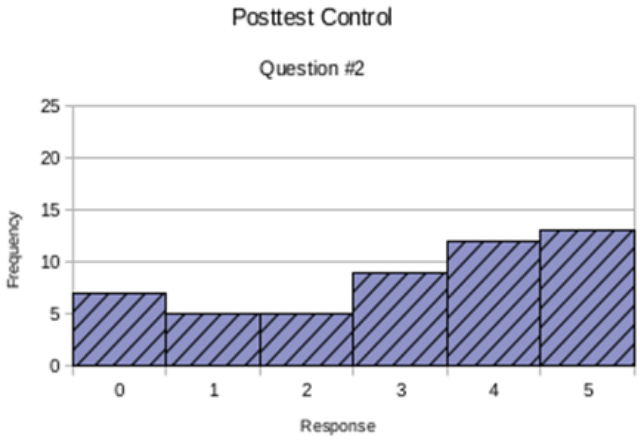


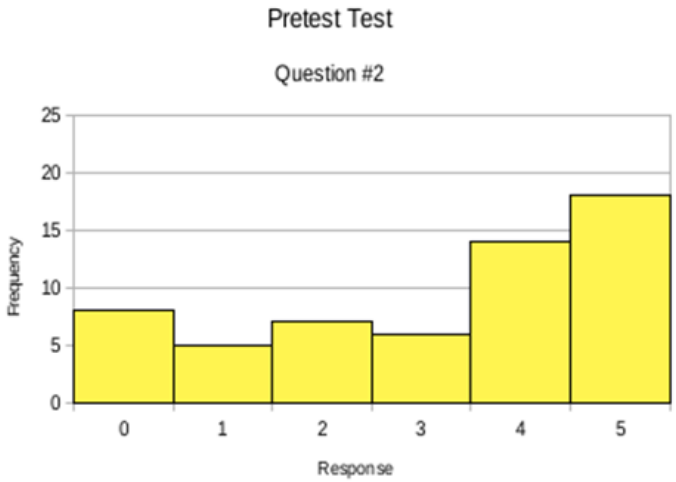


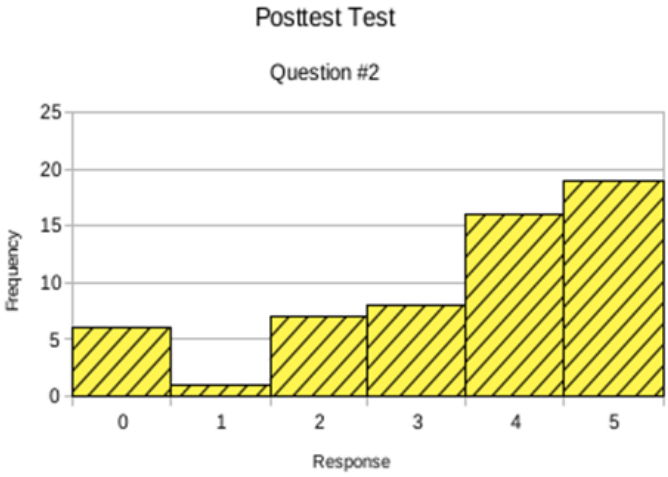


2. MAJ Smith considered falsifying some of the numbers on his USR but chose not to because he believed that those actions would violate Army regulations for reporting.

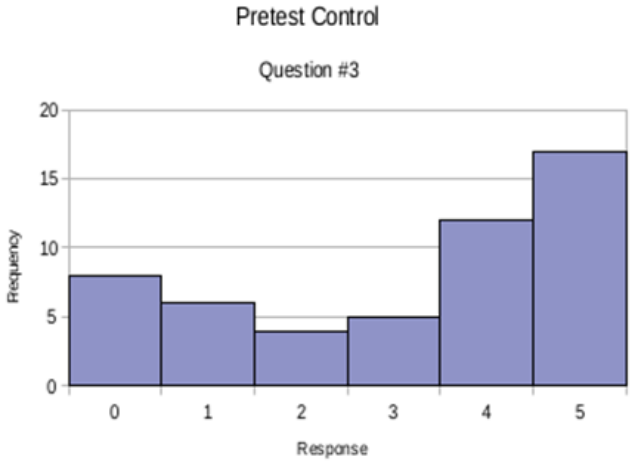


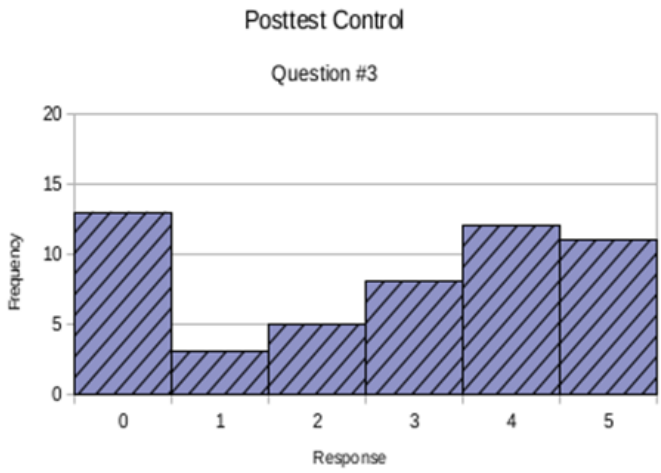


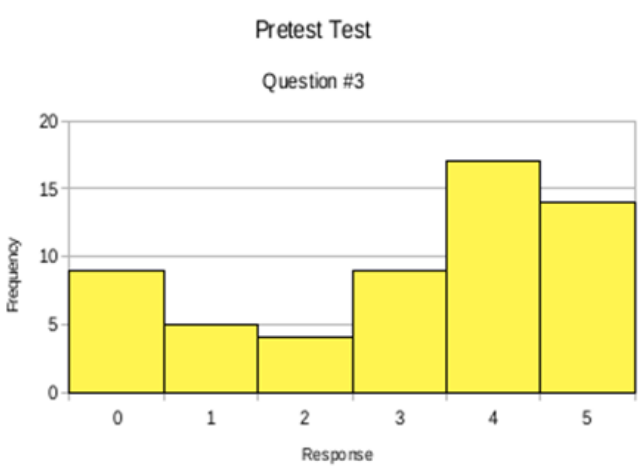


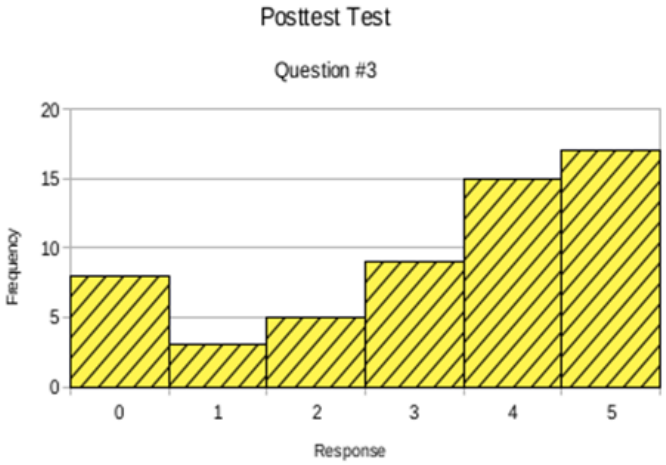


3. MAJ Smith considered falsifying some of the numbers on his USR but chose not to because he believed that those actions would not be good for anyone in the unit.

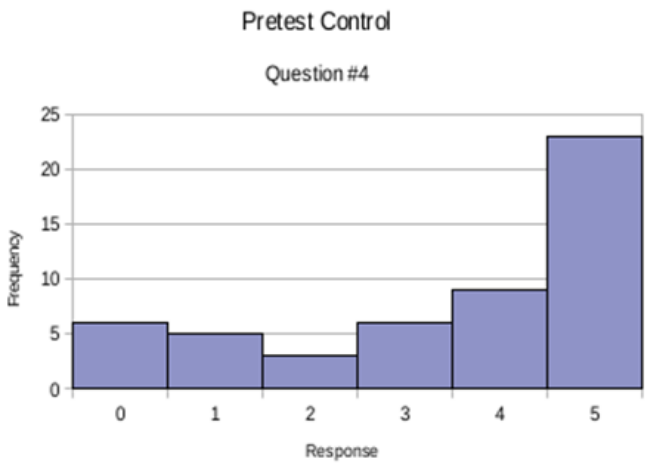


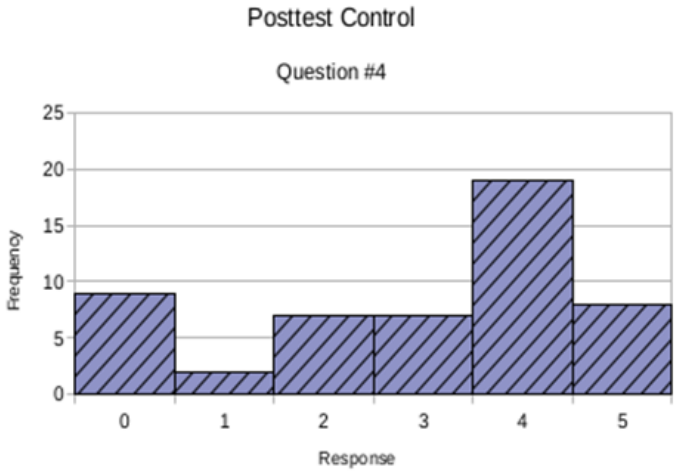


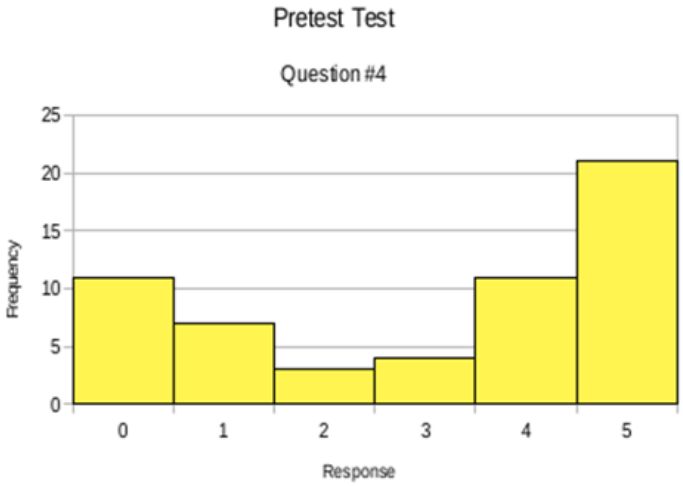


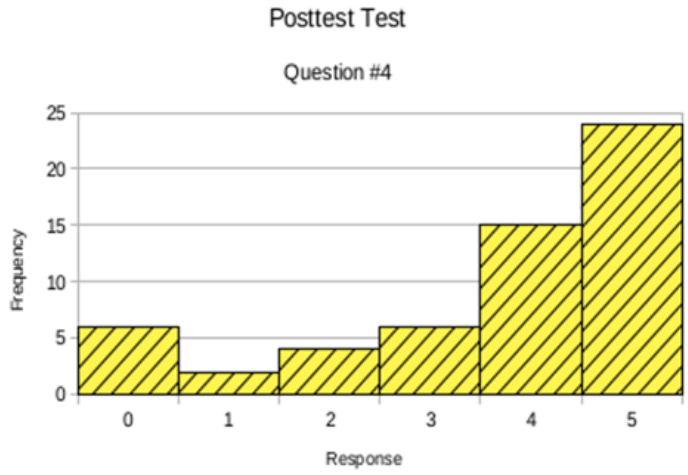


4. CPT Jones was tempted to look the other way when she was made aware that sensitive item inventories were not conducted to standard but decided not to because she did not want to be considered dishonest.

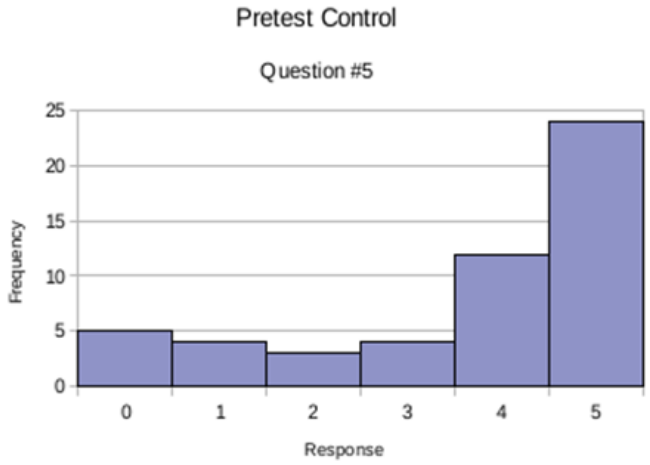


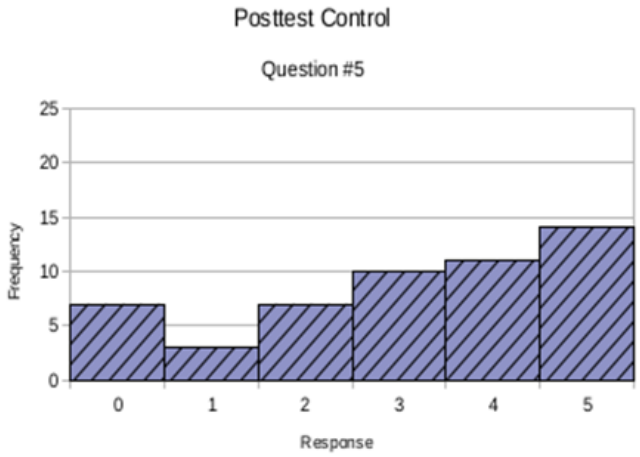


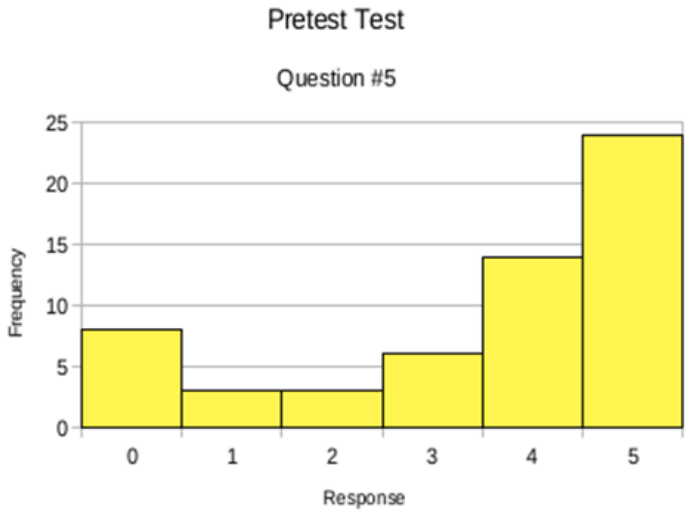


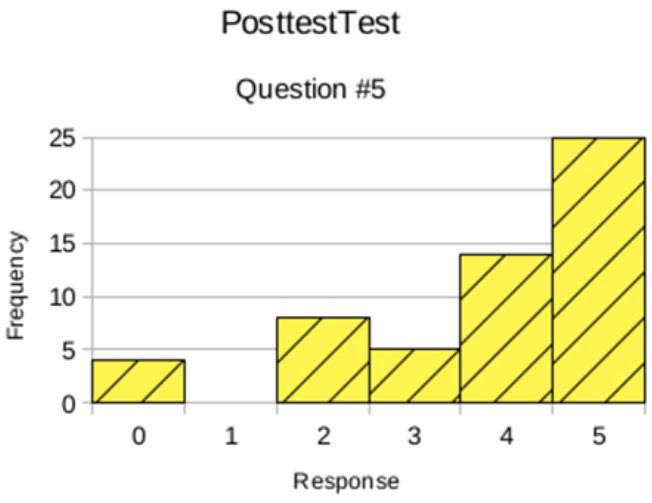


5. CPT Jones was tempted to look the other way when she was made aware that sensitive item inventories were not conducted to standard but decided not to because she knew it would violate the regulations concerning sensitive items accountability.

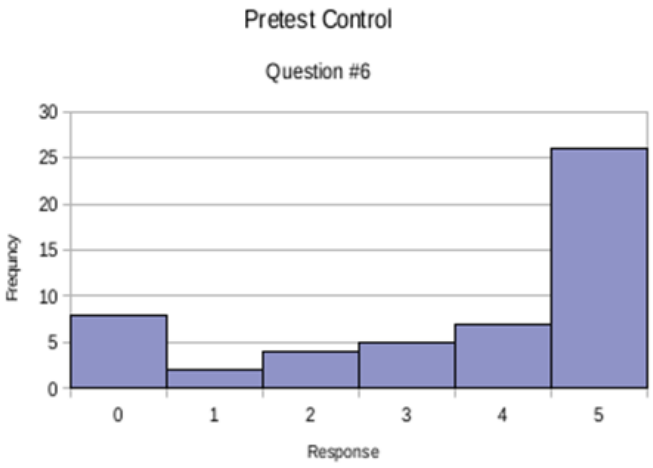


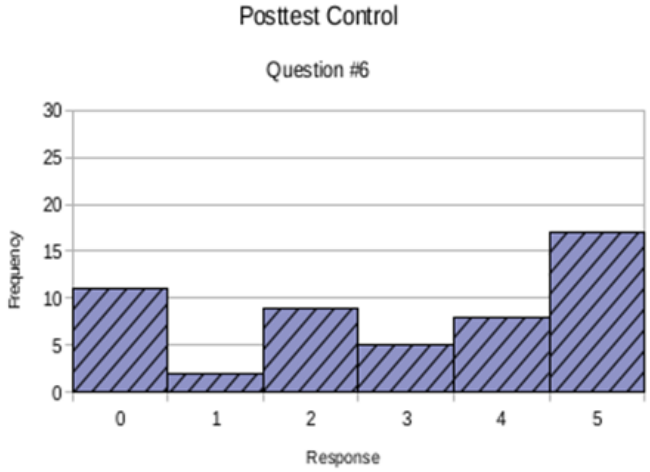


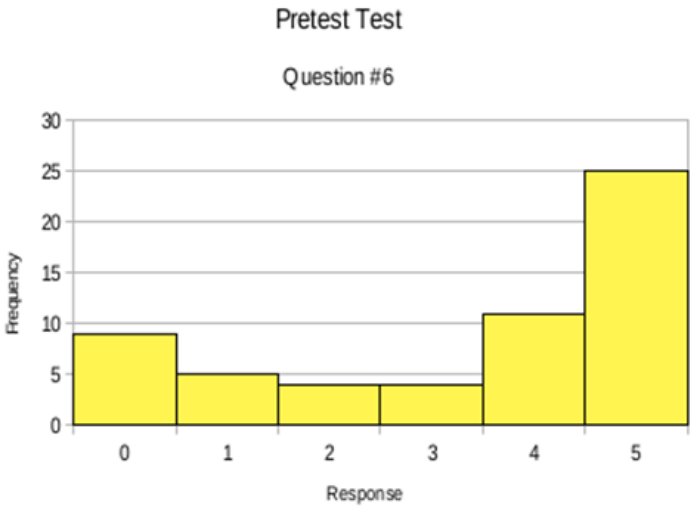


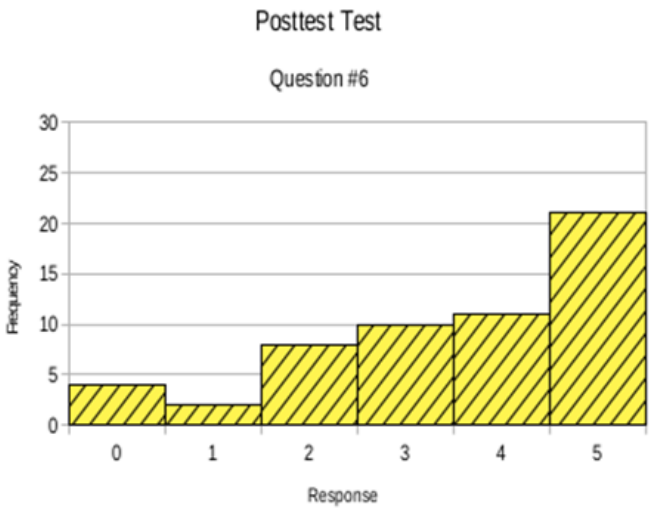


6. CPT Jones was tempted to look the other way when she was made aware that sensitive item inventories were not conducted to standard but decided not to because she worried about the ramifications of lost sensitive items.

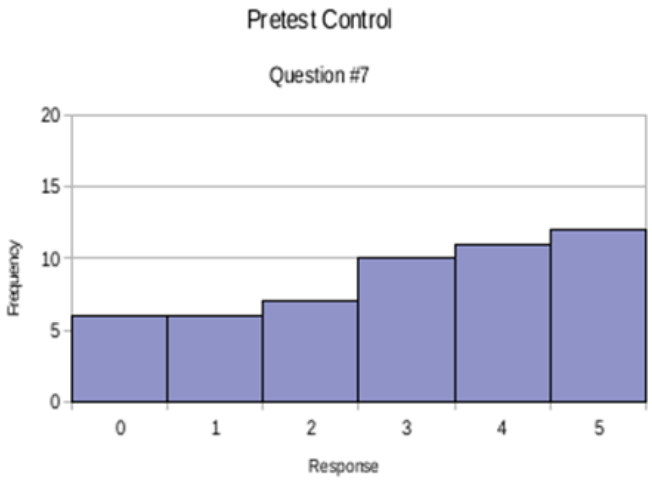


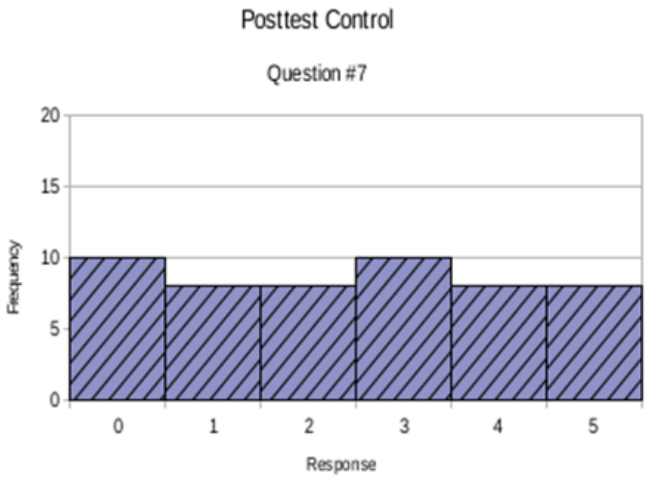


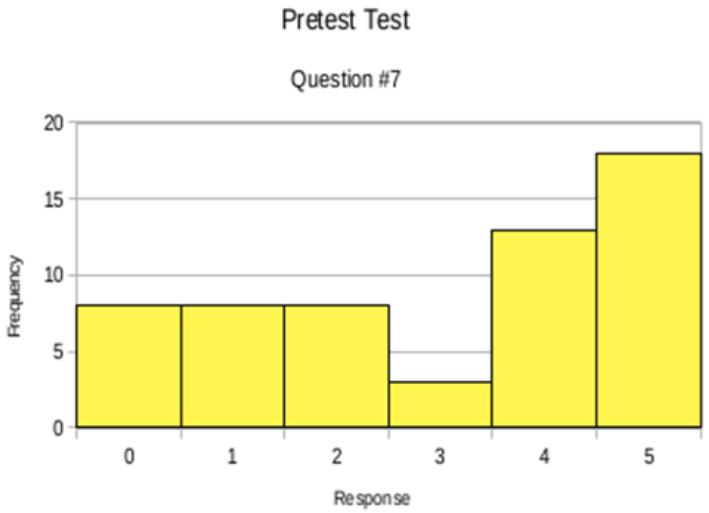


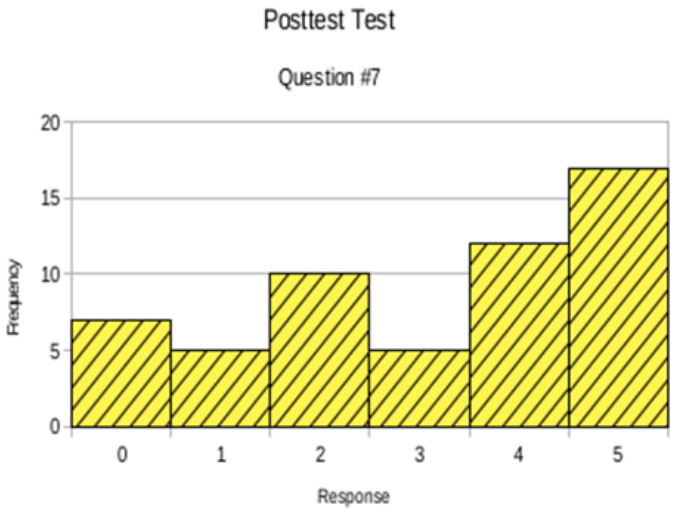


7. MAJ Ramsey considered reporting an inflated training area utilization rate to the installation but decided not to because it would be taking an unfair advantage over other unit leaders.

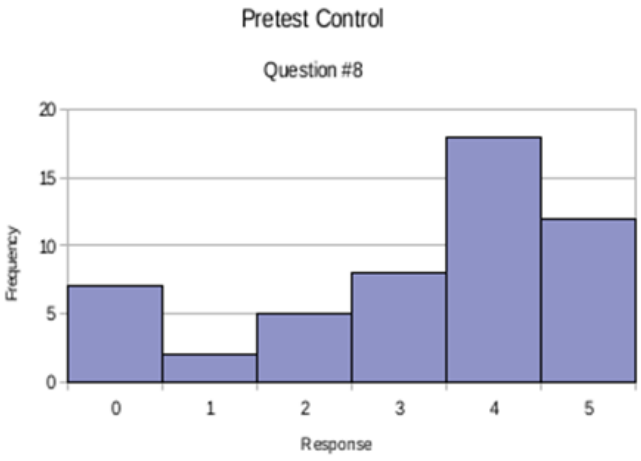


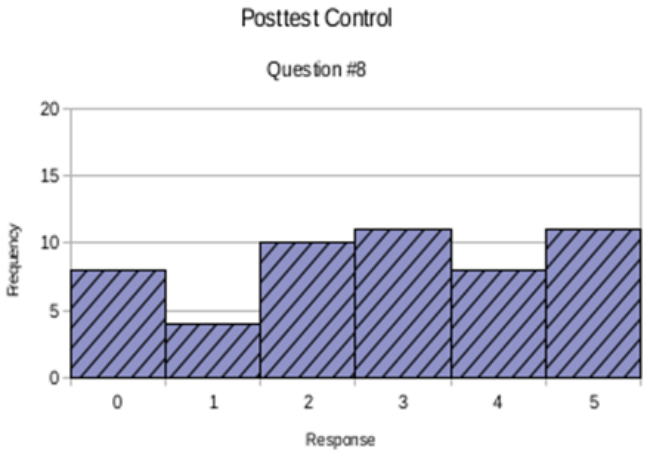


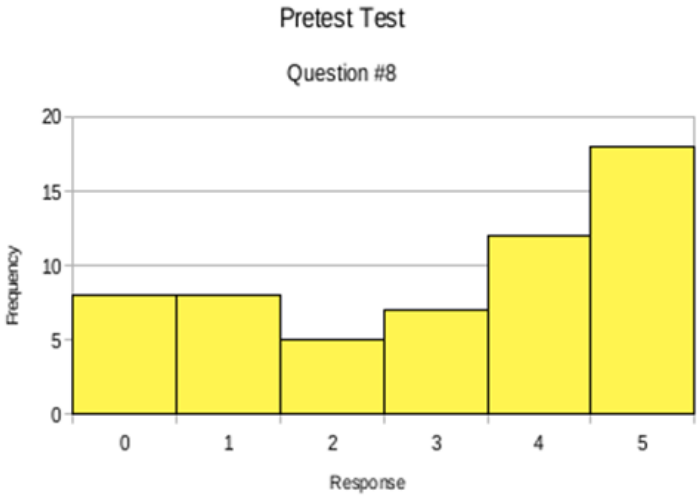


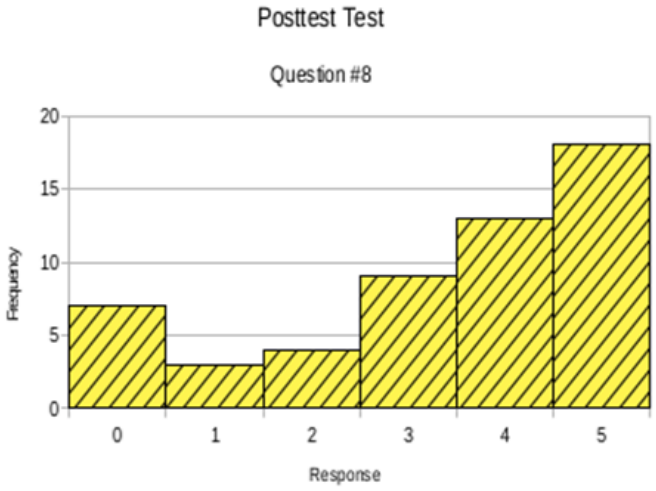


8. MAJ Ramsey considered reporting an inflated training area utilization rate to the installation but decided not to because it would violate installation training areas utilization guidance.

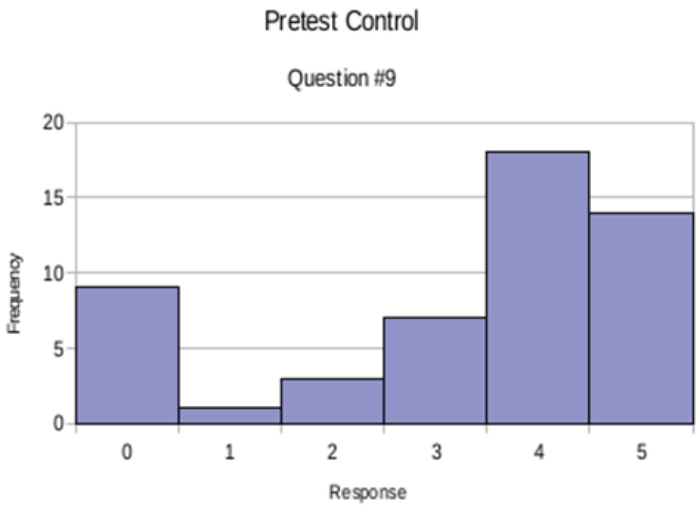


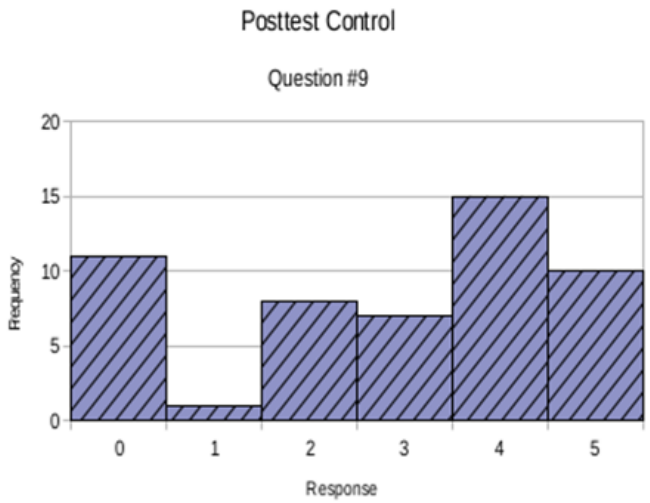


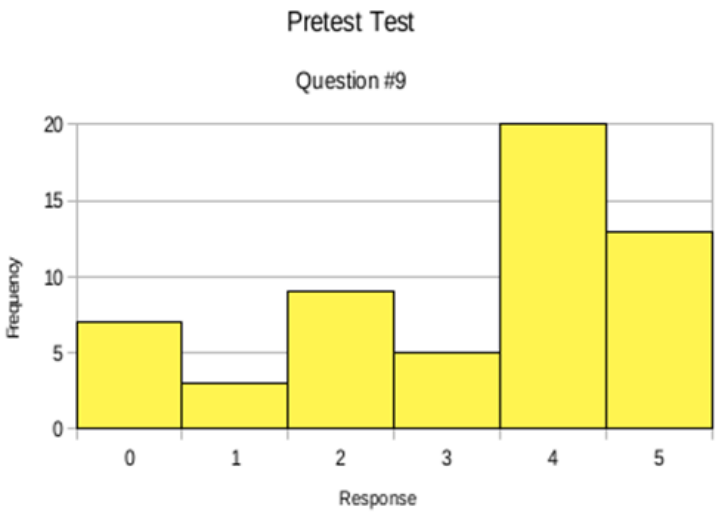


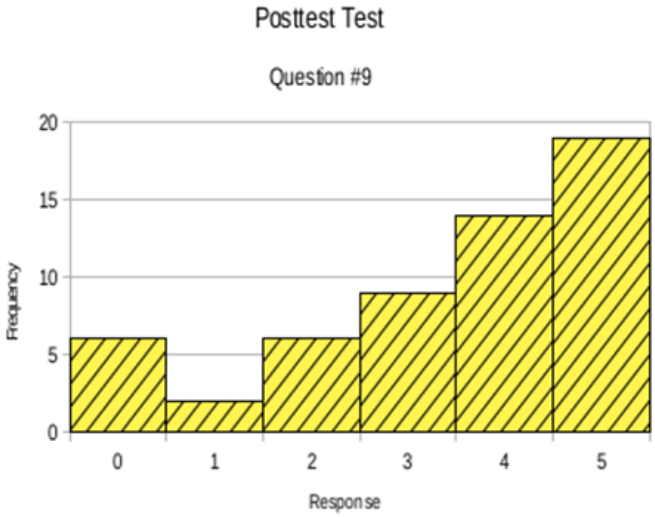


9. MAJ Ramsey considered reporting an inflated training area utilization rate to the installation but decided not to because he realized that if everyone did this, it might damage the division's ability to train all units on post.

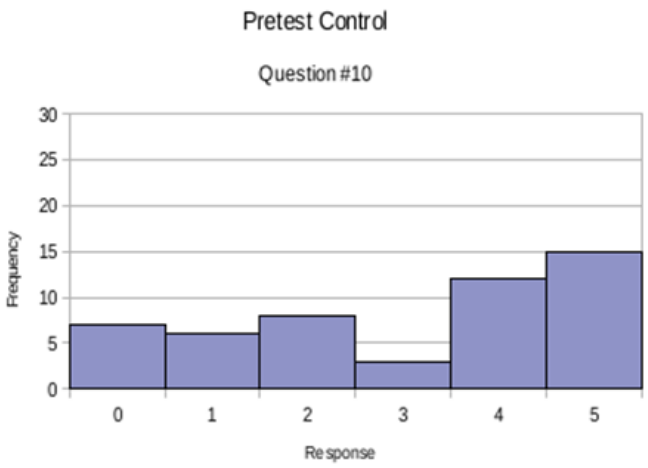


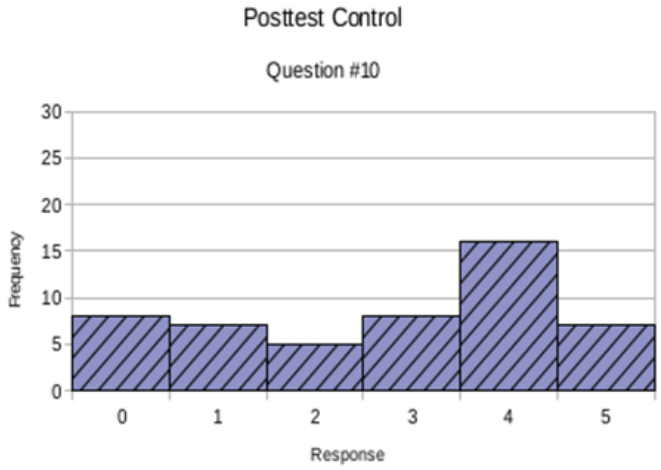


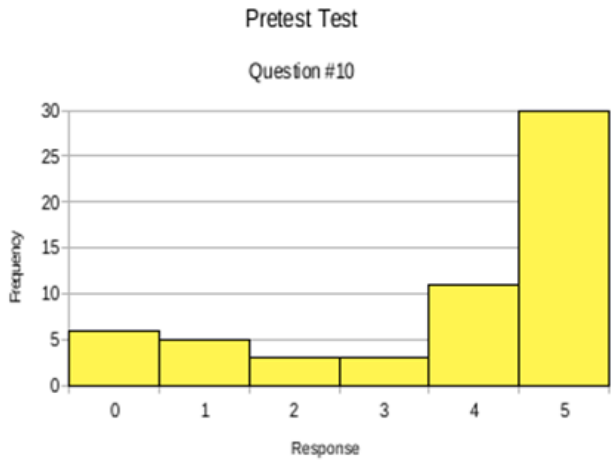


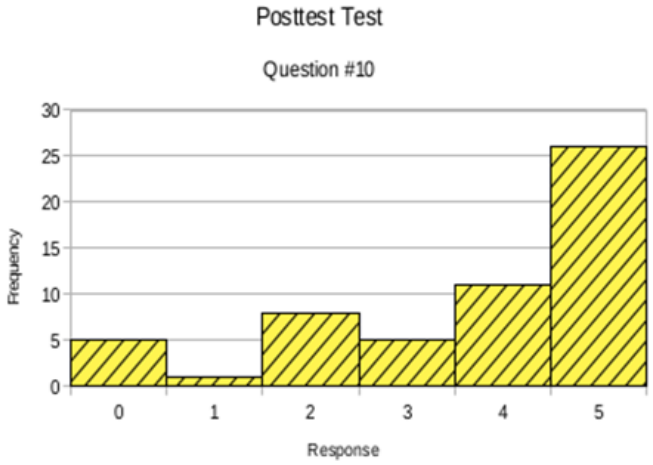


10. MAJ Downs was tempted to not investigate allegations of pilferage at the dining facility because she held the NCOIC in high regard but decided to investigate because not to do so would make it hard for her to look at herself in the mirror.

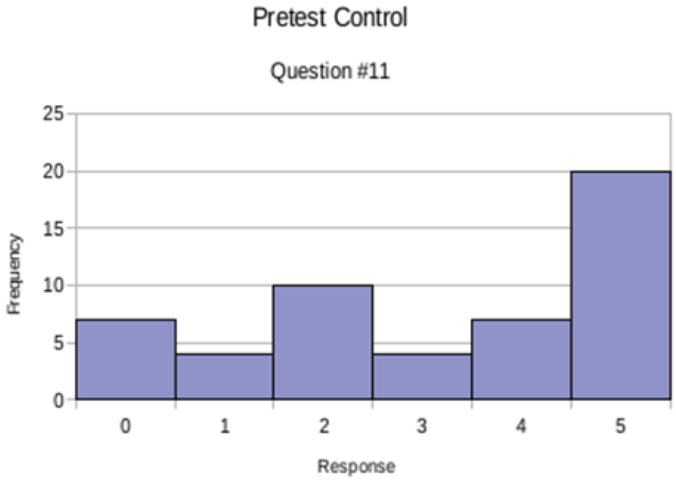


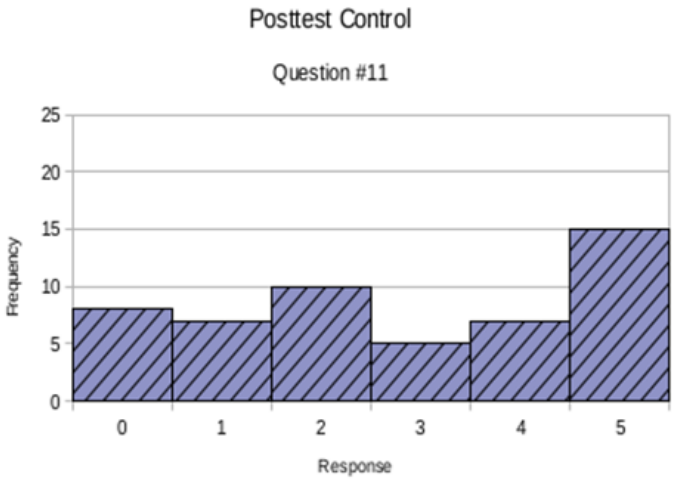


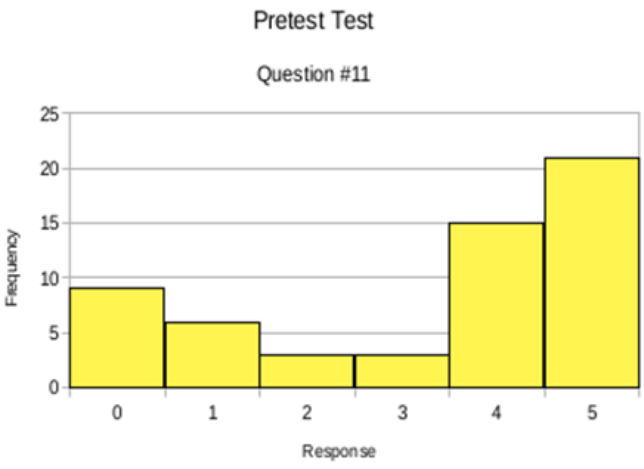


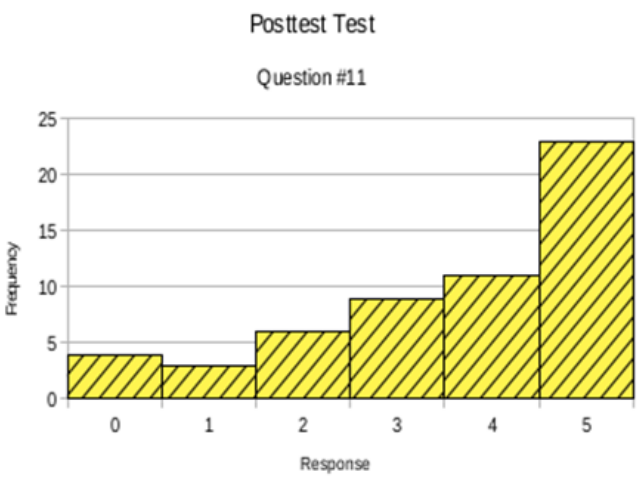


11. MAJ Downs was tempted to not investigate allegations of pilferage at the dining facility because she held the NCOIC in high regard but decided to investigate because her legal counsel advised her that to not investigate might indicate dereliction of duty.

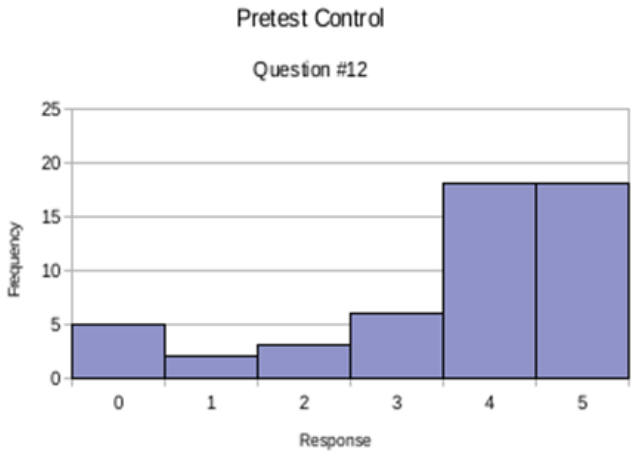


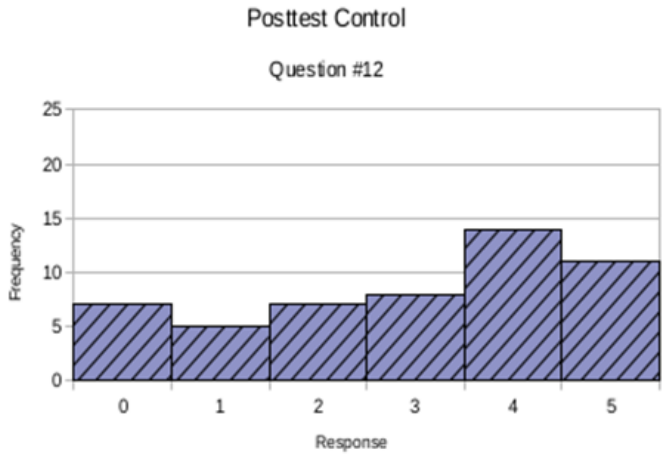


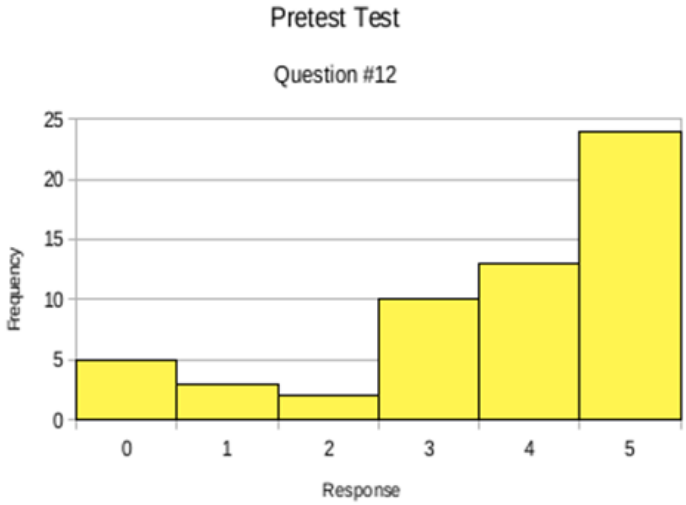


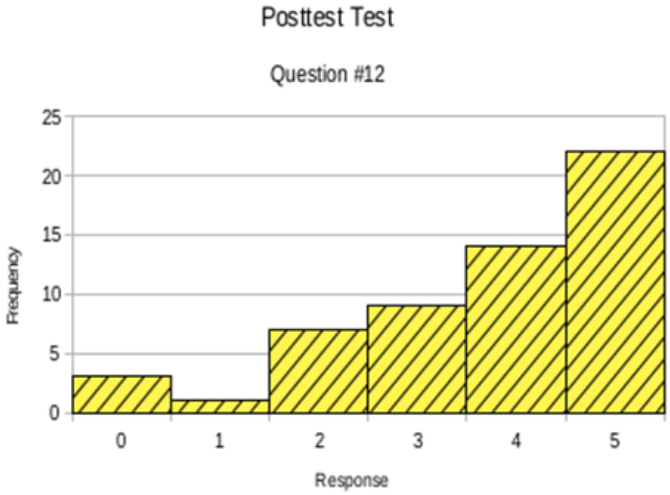


12. MAJ Downs was tempted to not investigate allegations of pilferage at the dining facility because she held the NCOIC in high regard but decided to investigate because the possible improper running of the DFAC could adversely impact the entire brigade.

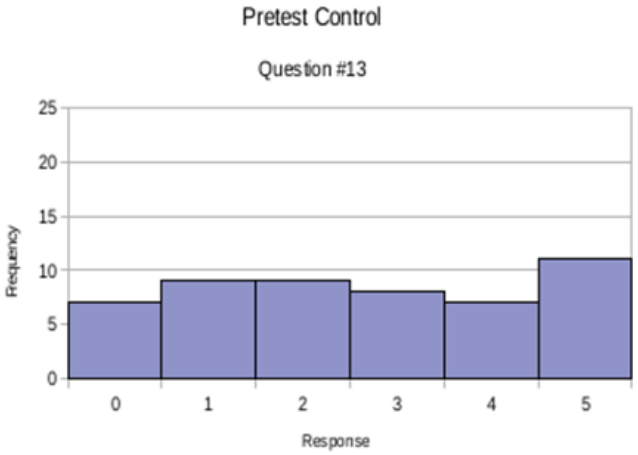


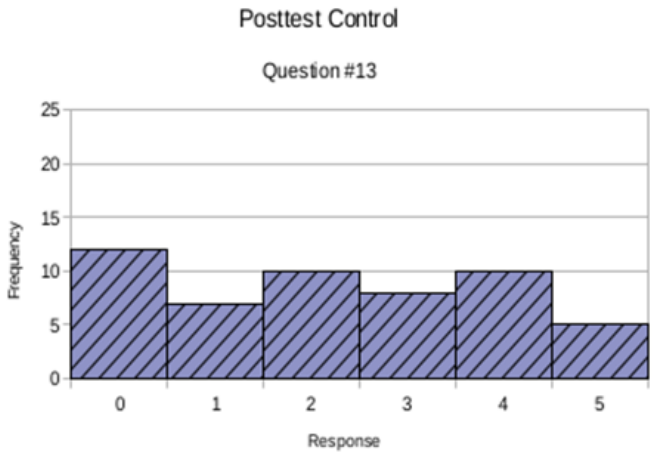


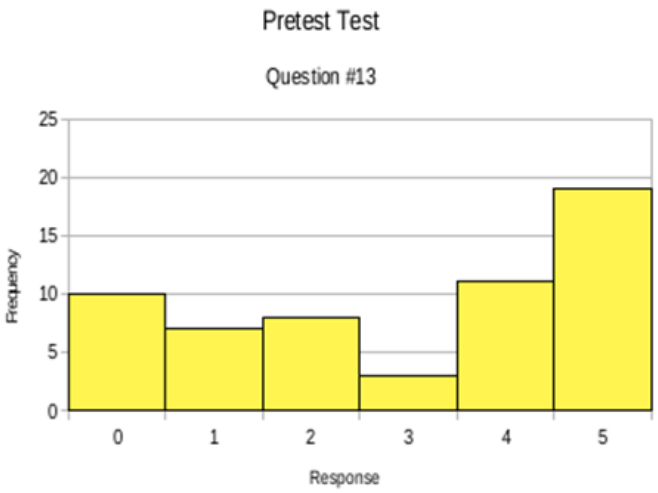


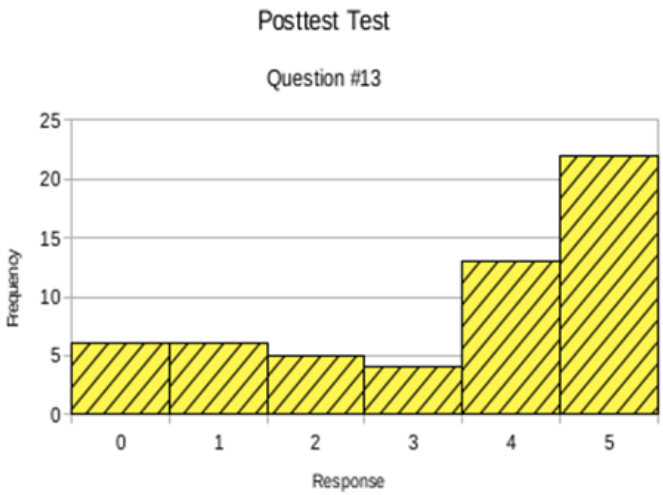


13. CPT Scott witnessed a violation of the Rules of Engagement resulting in a local civilian death by an adjacent unit commanded by a close friend and considered not reporting it but decided to report it because he imagined how he would feel if his father or mother knew about his actions.

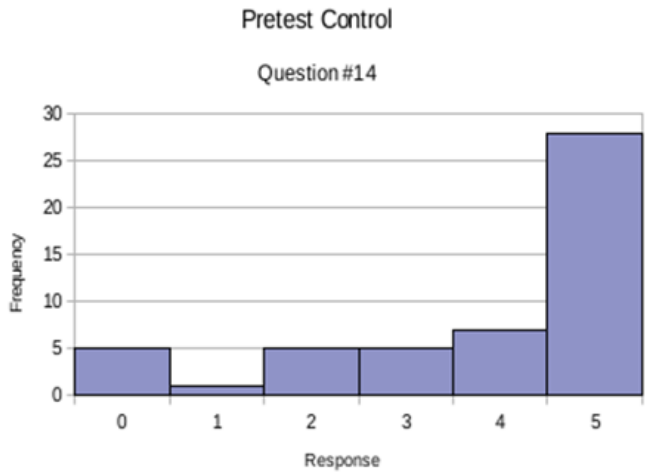


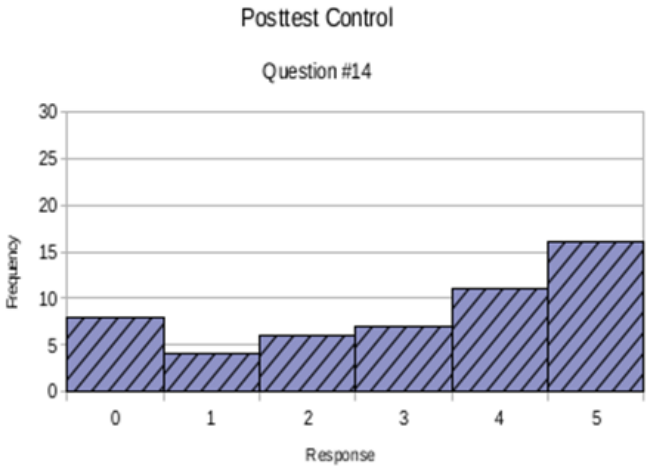


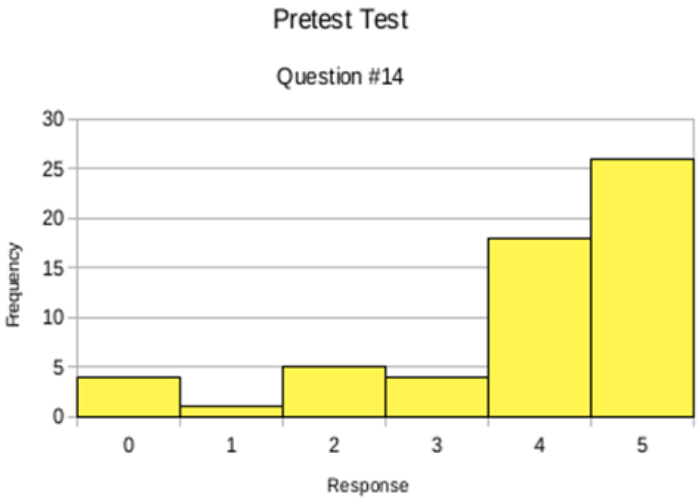


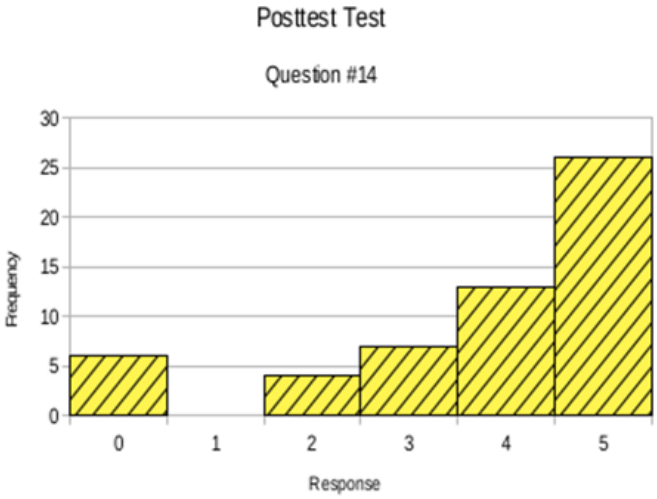


14. CPT Scott witnessed a violation of the Rules of Engagement resulting in a local civilian death by an adjacent unit commanded by a close friend and considered not reporting it but decided to do so because he knew this was a clear violation of the ROE.

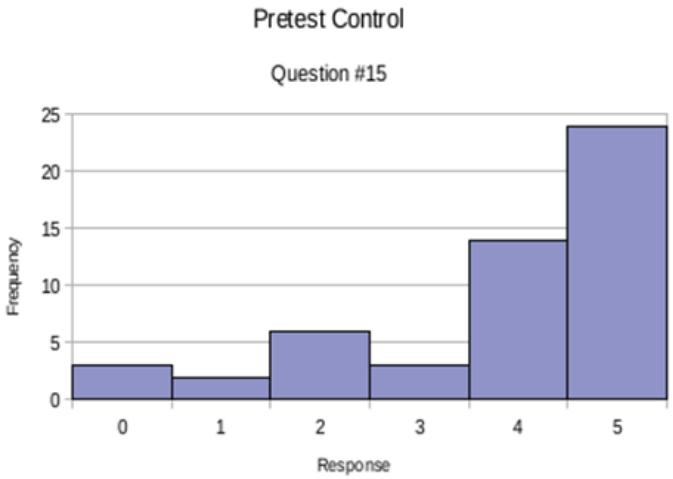


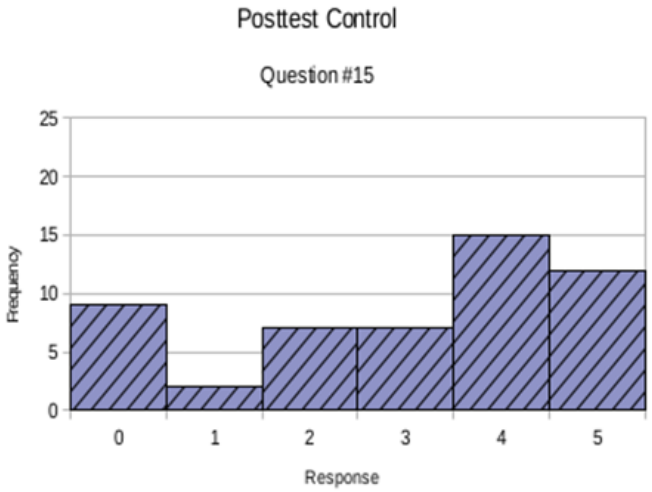


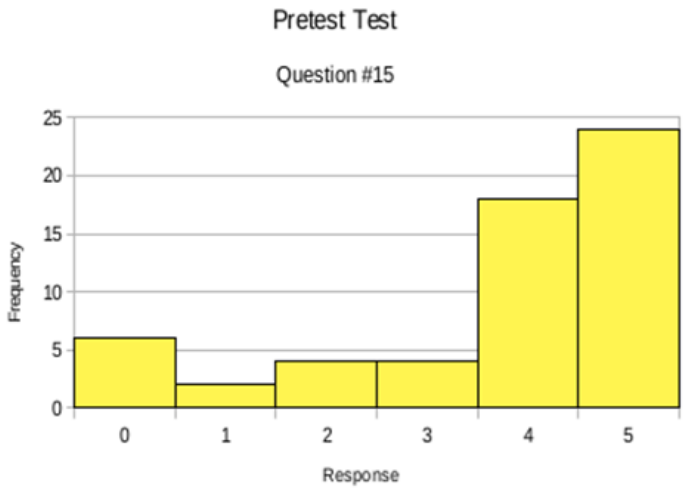


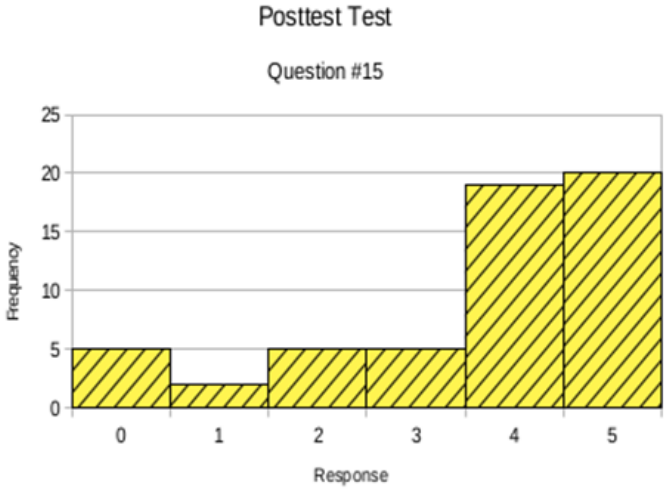


15. CPT Scott witnessed a violation of the Rules of Engagement resulting in a local civilian death by an adjacent unit commanded by a close friend and considered not reporting it but decided to do so because he knew that the ROE existed to protect everyone and that transcended personal loyalty.









APPENDIX I:
PRE AND POSTTEST MATCHED PAIRS DATA FOR CONTROL AND TEST BY QUESTION.

Wilcoxon Signed-Rank Tests for Pre- and Post-Test Matched Pairs Data for Control and Test Groups by Question

H_0: medians for pretest and posttest are the same
H_1: medians for pretest and posttest are different

$\alpha = .05$

Question #1

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#1 - Posttest#1	Negative Ranks	2	14.50	29.00
	Positive Ranks	24	13.42	322.00
	Ties	19		
	Total	45		

Test Statistics Control

	Pretest#1 - Posttest#1
Z	-3.80
Asymp. Sig. (2-tailed)	.000

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#1 - Posttest#1	Negative Ranks	7	8.14	57.00
	Positive Ranks	11	10.36	114.00
	Ties	35		
	Total	53		

Test Statistics Test

	Pretest#1 - Posttest#1
Z	-1.27
Asymp. Sig. (2-tailed)	.204

Question #2

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#2 - Posttest#2	Negative Ranks	7	11.79	82.50
	Positive Ranks	16	12.09	193.50
	Ties	21		

		N	Mean Rank	Sum of Ranks
	Total	44		

Test Statistics

	Pretest#2 - Posttest#2
Z	-1.75
Asymp. Sig. (2-tailed)	.081

Ranks Test

		N	Mean Rank	Sum of Ranks
Pretest#2 - Posttest#2	Negative Ranks	19	16.63	316.00
	Positive Ranks	13	16.31	212.00
	Ties	21		
	Total	53		

Test Statistics

	Pretest#2 - Posttest#2
Z	-1.01
Asymp. Sig. (2-tailed)	.311

Question #3

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#3 - Posttest#3	Negative Ranks	11	13.68	150.50
	Positive Ranks	14	12.46	174.50
	Ties	20		
	Total	45		

Test Statistics

	Pretest#3 - Posttest#3
Z	-.33
Asymp. Sig. (2-tailed)	.744

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#3 - Posttest#3	Negative Ranks	10	14.15	141.50
	Positive Ranks	13	10.35	134.50
	Ties	30		
	Total	53		

Test Statistics

	Pretest#3 - Posttest#3
Z	-.11
Asymp. Sig. (2-tailed)	.914

Question #4

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#4 - Posttest#4	Negative Ranks	10	12.90	129.00
	Positive Ranks	16	13.88	222.00
	Ties	19		
	Total	45		

Test Statistics

	Pretest#4 - Posttest#4
Z	-1.21
Asymp. Sig. (2-tailed)	.226

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#4 - Posttest#4	Negative Ranks	18	16.17	291.00
	Positive Ranks	10	11.50	115.00
	Ties	24		
	Total	52		

Test Statistics

	Pretest#4 - Posttest#4
Z	-2.03
Asymp. Sig. (2-tailed)	.042

Question #5

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#5 - Posttest#5	Negative Ranks	9	14.94	134.50

		N	Mean Rank	Sum of Ranks
	Positive Ranks	19	14.29	271.50
	Ties	17		
	Total	45		

Test Statistics

	Pretest#5 - Posttest#5
Z	-1.59
Asymp. Sig. (2-tailed)	.111

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#5 - Posttest#5	Negative Ranks	12	14.58	175.00
	Positive Ranks	13	11.54	150.00
	Ties	27		
	Total	52		

Test Statistics

	Pretest#5 - Posttest#5
Z	-.34
Asymp. Sig. (2-tailed)	.732

Question #6

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#6 - Posttest#6	Negative Ranks	5	10.10	50.50
	Positive Ranks	13	9.27	120.50
	Ties	27		
	Total	45		

Test Statistics

	Pretest#6 - Posttest#6
Z	-1.54
Asymp. Sig. (2-tailed)	.123

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#6 - Posttest#6	Negative Ranks	12	17.92	215.00
	Positive Ranks	17	12.94	220.00
	Ties	23		
	Total	52		

Test Statistics

	Pretest#6 - Posttest#6
Z	-.05
Asymp. Sig. (2-tailed)	.956

Question #7

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#7 - Posttest#7	Negative Ranks	8	12.81	102.50
	Positive Ranks	18	13.81	248.50
	Ties	19		
	Total	45		

Test Statistics

	Pretest#7 - Posttest#7
Z	-1.89
Asymp. Sig. (2-tailed)	.058

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#7 - Posttest#7	Negative Ranks	14	14.71	206.00
	Positive Ranks	14	14.29	200.00
	Ties	24		
	Total	52		

Test Statistics

	Pretest#7 - Posttest#7
Z	-.07
Asymp. Sig. (2-tailed)	.944

Question #8

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#8 - Posttest#8	Negative Ranks	11	10.77	118.50
	Positive Ranks	16	16.22	259.50
	Ties	18		
	Total	45		

Test Statistics

	Pretest#8 - Posttest#8
Z	-1.74
Asymp. Sig. (2-tailed)	.081

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#8 - Posttest#8	Negative Ranks	16	17.41	278.50
	Positive Ranks	15	14.50	217.50
	Ties	19		
	Total	50		

Test Statistics

	Pretest#8 - Posttest#8
Z	-.61
Asymp. Sig. (2-tailed)	.543

Question #9

NPAR TEST /WILCOXON Pretest#9 WITH Posttest#9 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#9 - Posttest#9	Negative Ranks	9	14.39	129.50
	Positive Ranks	15	11.37	170.50
	Ties	21		
	Total	45		

Test Statistics

	Pretest#9 - Posttest#9
Z	-.60
Asymp. Sig. (2-tailed)	.552

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#9 - Posttest#9	Negative Ranks	15	15.30	229.50
	Positive Ranks	12	12.38	148.50
	Ties	24		
	Total	51		

Test Statistics

	Pretest#9 - Posttest#9
Z	-.99
Asymp. Sig. (2-tailed)	.321

Question #10

NPAR TEST /WILCOXON Pretest#10 WITH Posttest#10 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#10 - Posttest#10	Negative Ranks	8	13.94	111.50
	Positive Ranks	16	11.78	188.50
	Ties	20		
	Total	44		

Test Statistics

	Pretest#10 - Posttest#10
Z	-1.14
Asymp. Sig. (2-tailed)	.254

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#10 - Posttest#10	Negative Ranks	9	12.39	111.50
	Positive Ranks	14	11.75	164.50
	Ties	29		
	Total	52		

Test Statistics

	Pretest#10 - Posttest#10
Z	-.82
Asymp. Sig. (2-tailed)	.412

Question #11

NPAR TEST /WILCOXON Pretest#11 WITH Posttest#11 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#11 - Posttest#11	Negative Ranks	11	13.00	143.00
	Positive Ranks	13	12.08	157.00
	Ties	21		
	Total	45		

Test Statistics

	Pretest#11 - Posttest#11
Z	-.20
Asymp. Sig. (2-tailed)	.839

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#11 - Posttest#11	Negative Ranks	12	15.17	182.00
	Positive Ranks	14	12.07	169.00
	Ties	25		
	Total	51		

Test Statistics

	Pretest#11 - Posttest#11
Z	-.17
Asymp. Sig. (2-tailed)	.867

Question #12

NPAR TEST /WILCOXON Pretest#12 WITH Posttest#12 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#12 - Posttest#12	Negative Ranks	6	10.00	60.00
	Positive Ranks	15	11.40	171.00
	Ties	24		
	Total	45		

Test Statistics

	Pretest#12 - Posttest#12
Z	-1.99
Asymp. Sig. (2-tailed)	.047

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#12 - Posttest#12	Negative Ranks	9	13.44	121.00
	Positive Ranks	15	11.93	179.00
	Ties	27		
	Total	51		

Test Statistics

	Pretest#12 - Posttest#12
Z	-.85
Asymp. Sig. (2-tailed)	.393

Question #13

NPAR TEST /WILCOXON Pretest#13 WITH Posttest#13 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#13 - Posttest#13	Negative Ranks	11	11.77	129.50
	Positive Ranks	13	13.12	170.50
	Ties	20		
	Total	44		

Test Statistics

	Pretest#13 - Posttest#13
Z	-.61
Asymp. Sig. (2-tailed)	.544

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#13 - Posttest#13	Negative Ranks	16	16.22	259.50
	Positive Ranks	13	13.50	175.50
	Ties	23		
	Total	52		

Test Statistics

	Pretest#13 - Posttest#13
Z	-.92
Asymp. Sig. (2-tailed)	.357

Question #14

NPAR TEST /WILCOXON Pretest#14 WITH Posttest#14 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#14 - Posttest#14	Negative Ranks	6	11.33	68.00
	Positive Ranks	18	12.89	232.00
	Ties	20		
	Total	44		

Test Statistics

	Pretest#14 - Posttest#14
Z	-2.37
Asymp. Sig. (2-tailed)	.018

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#14 - Posttest#14	Negative Ranks	10	11.30	113.00
	Positive Ranks	13	12.54	163.00
	Ties	29		
	Total	52		

Test Statistics

	Pretest#14 - Posttest#14
Z	-.78
Asymp. Sig. (2-tailed)	.437

Question #15

NPAR TEST /WILCOXON Pretest#15 WITH Posttest#15 (PAIRED).

Ranks (Control)

		N	Mean Rank	Sum of Ranks
Pretest#15 - Posttest#15	Negative Ranks	8	10.63	85.00
	Positive Ranks	21	16.67	350.00
	Ties	16		
	Total	45		

Test Statistics

	Pretest#15 - Posttest#15
Z	-2.93
Asymp. Sig. (2-tailed)	.003

Ranks (Test)

		N	Mean Rank	Sum of Ranks
Pretest#15 - Posttest#15	Negative Ranks	13	14.81	192.50
	Positive Ranks	15	14.23	213.50
	Ties	24		
	Total	52		

Test Statistics

	Pretest#15 - Posttest#15
Z	-.24
Asymp. Sig. (2-tailed)	.808

APPENDIX J:
POSTTEST QUESTIONS 17 & 18 QUALITATIVE RESULTS.

Question 17 Results
What aspects of L102 should be sustained?

Themes	Control Group Results	Test Group Results
No respone:	15	14
No imrprovements required:	17	10
Need to improve ethical sitautions:	4	15
Need more instruction on ethical triangle:	4	9
Did not understand the survey:	4	2
Improved undestanding of concepts:	6	3
Need more practical exercises:	1	1
Need practice run:	0	2
Improved collaboration:	2	0
Caused gamesmanship	0	1
No use for simulation	0	1
Need more interpersonal interaction	1	0

Question 18 Results
What aspects of L102 should be changed?

Theme	Control Group Results	Test Group Results
No respone:	16	17
No improvements required:	27	27
Need to improve ethical situations:	0	1
Need more instruction on ethical triangle:	0	1
Did not understand the survey:	1	2
Improved undestanding of concepts:	3	10
Need more practical exercises:	0	0
Need practice run:	0	0
Improved collaboration:	2	1
Caused gamesmanship	0	0
No use for simulation	0	1
Need more interpersonal interaction	0	0