Report on Falconer AIAD, San Diego, Summer 2010

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Abstract

During Summer 2010 BSL and CEP sponsored a cadet AIAD in San Diego as a trial of a new problem solving and critical thinking curriculum based on The Falconer book and seminar conducted at Francis Parker School, San Diego. The goals of the AIAD were to validate to what extent the curriculum is relevant to cadet training at USMA relative to stated program goals. Twelve cadets were selected to attend the AIAD, along with one member of the faculty as observer and chaperone. The course included approximately 55 hours of class-time instruction, largely in a discussion and team-based experience and exercise format. The focus of the course is to give cadets an opportunity to both learn and practice a skill set to efficiently engage and manage complex sets of unfamiliar information, often complicated by conflicting worldviews and evolving measures of success and failure. Based on cadet assessments and after action discussions the trial was an unqualified success, at least within the format that it was offered. Questions remain about how the skill set might be better incorporated in standard cadet training at USMA. An additional AIAD offering is required to carry forward with this assessment.

I. Genesis of Falconer Program

Background: Course Development

From 1999-2003 Grant Lichtman taught a seminar to seniors at the independent Francis Parker School in San Diego, California. The seminar was a discussion and experience-based exposure to a model of strategic, critical, and creational thinking that Lichtman had developed over a period of twenty years in science, business, and education. The students who elected the take the semester course volunteered to give up two lunch periods a week; they did not receive either a grade or credit.

The physical and discussion-style setting was a significant deviation from most other classes that the seniors took in their standard academic program. The group met in the school board room around a large conference table. There were no textbooks or out-of-class assignments. Lichtman facilitated deliberative discussions largely by asking the students questions and by prompting them to question themselves. The students were not handed a set of goals at the outset, nor a detailed syllabus by which they could monitor where the discussions were leading. This was intentional in order to get the students away from focusing on

pre-set outcomes, to focus on the process of thinking rather than the product of specific answers.

Feedback in terms of both written assessment and recommendations to future rising seniors suggested that the course was a capstone opportunity for students, helping them to place into context the content-based education they had received at one of the nation's best college preparatory schools. One valedictorian who took the seminar expressed to younger students: "We learn a lot of stuff in school. This is the glue that holds that stuff together."

In the final year of instruction the course was folded into a standard class on Philosophy and Ethics. The format was less successful; feedback suggested that this was primarily because it was viewed as just another class, not a special all-volunteer seminar, and the course lacked an authentic assessment appropriate to the nature of the course.

During and following the years of instruction, Lichtman wrote and published the resulting book, based in large part on the discussions and instruction that took place in the seminar.

Summary of the Model

This program is based on the assertion that we can and should overtly teach the tools of strategic and creational thinking to students starting at a young age. Problem solving and critical thinking are two steps in this overarching skill set that leads us to more satisfying and effective solutions to the various challenges and opportunities that present themselves in our academic, personal, and business lives. The following quotes from *The Falconer* book accurately describe the focus of this course:

"If we want to achieve elegant results we have to teach the tools of elegant thinking."

"We want our young people to develop the traits of our heroes: courage, compassion, creativity, leadership, invention, vision. We need our students and employees to learn the skills that will give them a competitive advantage in an interdependent world. Yet our schools and training centers are stuck in a half-century-old model that ignores this fundamental goal."

For the USMA 2010 AIAD the core of the program was adjusted to look at how these skills can be specifically adapted for training of future Army officers. From the circular advertising the AIAD:

"The *Falconer* model of strategic design incorporates a novel interpretation of *The Art of War* that recognizes a highly-specific and

easy-to-implement guide to unlocking opportunities and solving problems; to accurate assessment of complex systems; to managing risk and overcoming setbacks. It is a model for creating new perspectives and knowledge using both the fruit of experience and the future unknown. The techniques embedded in the model are specific, tangible, and useable at scales ranging from broad mission planning and goal setting to what-am-I going-to-do-today."

Specifically, the skill set embedded in this model is one that forces the student and the team to consider a wide range of possibilities before settling on a proposed solution to a complex problem. It gives students the tools to proactively consider second and third order effects within the problem identification process rather than as a result of the problem solving process. It incorporates aspects of negotiation and dispute resolution as a key tool when solving problems amongst groups with fundamentally differing worldviews.

Introduction to USMA

In 2003-2005 a graduate of Francis Parker School and one of the students who had taken the Falconer seminar was stationed in Baghdad as a civilian member of the Coalition Provisional Authority. At age 25, Michael Moreno was initially tasked with helping to direct food and fuel shipments; he later was seconded to the State Department. During his time in Iraq, Moreno worked closely with Army and other military units; he worked with James Merlo and Diane Ryan, both now on faculty in BSL at USMA. Following his duty in Iraq, Moreno earned an MA in International Security at Columbia University and then worked with the FBI and Combating Terrorism Center at USMA as an instructor in the emergence and role of radical Islamist groups in global jihad.

While at CTC, Moreno gave copies of *The Falconer* book to Merlo and Ryan, as well as Laura Vetter who teaches critical thinking in the Center for Enhanced Performance. Subsequently, Lichtman visited USMA in Spring 2009 to meet these faculty as well as others for a preliminary discussion on possible applications of the book and/or curriculum to cadet training. The group at that time discussed significant parallels between mandates in "Educating Army Officers for a Changing World" and the Falconer model. In the former, USMA states that cadets should be trained to:

- "...deal with rapidly evolving situations..."
- "...respond to challenges that we can predict only imperfectly today..."
- "...anticipate and respond to uncertainties."
- "...be aware of limits of their own understanding..."
- "...recognize and appreciate diverse perspectives on complex situations..."
- "...frame a question or problem from multiple perspectives..."
- "...think and act creatively..."
- "...value and reward curiosity and questioning..."

"...recognize that questions, not answers, are the driving force in thinking."

All of these goals are also key points addressed in Lichtman's model, and the group therefore felt that there was value in continuing the discussion of how cadet training might adapt to include these areas of critical thinking. A common theme in these discussions was "Are we preparing young officers, giving them the intellectual tools they need, to navigate incredibly complex situations in poorly understood, dangerous, and rapidly evolving parts of the world?"

Development of AIAD Program

In Fall 2009 Lichtman was brought back to USMA for two days. He gave talks to faculty in both BSL and CEP; taught a one-hour class of Vetter's plebes; and sat in on two session of Ryan's _____ course. At the end of the visit, the group decided that the best way to test the validity of the model with respect to cadet training, and, in fact, given schedule constraints the only realistic way to create this opportunity, was to create a summer AIAD. Merlo and Ryan developed the funding and logistics of supporting the AIAD; Vetter promoted the opportunity in her classes (see appendix for flyer that was circulated to cadets); and Lichtman developed the course work and venue logistics. The group considered where to hold the AIAD; options in a number of locations were considered. Ultimately the group decided that it would be more attractive to cadets if the program was located somewhere other than West Point, since the time window was to immediately follow their training at Buckner. Lichtman arranged for the program to be offered at his school in San Diego, with housing at the adjacent University of San Diego.

The USMA faculty accepted more than 40 applications (is this true???) for the seminar and ultimately selected 12 cadets to attend, including 11 rising second year students and one rising fourth year cadet leader. Vetter accompanied the group.

Lichtman Background

Lichtman received his BS and MS from Stanford University in marine geology in 1981. He taught at Silliman University in the Philippines and worked with the US Geological Survey until 1983. From 1983-97 he worked in the domestic and international oil and gas exploration and geotechnical fields, primarily in business development, marketing and sales, strategic planning, and company management. During this time he also was involved with a start-up educational company that focused on curriculum development at the secondary school level. In 1997 he volunteered to work with Francis Parker School on strategic planning and finance; joined their Board of Trustees; began to prepare the Falconer seminar; and ultimately joined the school as their business manager in 1999. Since then he has held various titles at Parker, including CFO and COO, but has largely been

responsible for overseeing the business and operating aspects of the school. Parker is one of the oldest and largest k-12 independent schools on the West Coast, with 1,235 students and an annual operating budget of about \$30 million. He wrote and self-published *The Falconer* in 2008, with an updated version in 2010.

II. 2010 Falconer AIAD in San Diego

Goals

The goal of the AIAD in San Diego was to test the Falconer curriculum within the context of cadet instruction. In a broad sense the curriculum appeared to address key goals of the overall USMA vision and mandate for officer training. The group wanted to address several key questions:

- 1. Is this curriculum appropriate for cadet training?
- 2. Is it a stand-alone program or are there aspects that can or should be incorporated in either current plebe year problem solving classes, or woven into other coursework at USMA?
- 3. What are the constraining factors, if any, in terms of time or other resources that are critical to the program success, if in fact it should be considered for further application at USMA?
- 4. Are the outcomes assessable?
- 5. Is the program singular to Lichtman or is it exportable to other instructors?

Structure

The group was allocated two weeks in July, arriving on a Sunday afternoon in San Diego. Classes were scheduled for week days from approximately 8:30 AM to approximately 3:30 PM. Lichtman facilitated all of the sessions and Vetter was present, taking notes and observing. One additional instructor came in to work with the group during the exercise in mediation and dispute resolution. Each cadet was given a copy of *The Falconer* book; chapters were assigned for evening reading (average time spent out of class: approximately 40 minutes per night). The total time spent in class and course-related activities was approximately 55 hours.

The group was housed in student apartments at the University of San Diego, about a ten minute walk or two minute drive from Francis Parker School. Breakfast and lunches were provided at Parker. The group was provided meal tickets for the University food services, primarily for dinners when the group decided to stay on campus during the evenings. The group had full access to two 9-passenger school vans. The classes were conducted in a large meeting room that was dedicated to the class for the two week period, as well as to other classrooms were they conducted various group break-out activities. One day the group visited the San

Diego Zoo (see discussion on Situational Analysis) and one morning they were hosted by SEAL Team on Coronado Island; all other class time was spent on the Parker campus.

After hours Lichtman organized activities around San Diego including field and game tickets at a San Diego Padres game; private time at the Mission Beach Wave House wave machine; sailing, water skiing and boating on Mission Bay; beach time, and a tour of the USS Midway carrier museum. These activities were provided gratis primarily by Parker parents and other members of the San Diego community (including the local USMA alumni chapter). The cadets also spent after hours at the local mall, movie theater, Sea World theme park, and restaurants, as well as relaxing around the USD campus. The USMA admissions department also held a welcome event on the Parker campus for prospective candidates from the region.

The cadets departed mid-day Friday, having spent 12 days in San Diego.

Logistical Considerations

Logistical considerations that contributed to the success of the AIAD are as follows:

- Location in San Diego was a significant attraction to the cadets. Weather
 is rarely a factor that limits activities and there are many local attractions
 for after-hours.
- 2. Proximity of USD and the Parker campus meant that daily travel and support issues were minimal.
- 3. Class and team activities during the day require one large meeting room as well as several smaller rooms.
- 4. Vehicle transport for cadets after hours is required so they are not stuck in their housing every night. Drivers for school vehicles must be at least 21 years old.
- 5. Transportation to and from the airport was provided using Parker school bus and driver.

III. Course Content: Major Areas of Focus and Sample Exercises

(Throughout the remainder of the report cadet written comments will be inserted and set off by quotes and italics in relevant sections. The quotes were extracted from the after action reports and selected as they seem to reflect the general opinion of the group.)

Introductions

Lichtman and the cadets introduced themselves and shared why they were in the program. The cadets were advised of the very few ground rules of the course:

- a. always be ready to ask questions
- b. be willing to discuss your point of view and listen to those of others
- c. challenge your assumptions with an open mind
- d. don't take criticism personally

Lichtman explained that the course would be non-linear; that the cadets should expect a certain level of frustration since they would be required to develop intellectual links themselves rather than being handed all of them. The group then brainstormed responses to a query: You have just stepped out of a helicopter in Helmand Province for the first time; what questions do you have? The second exercise was for each cadet to identify a hero, living or dead, and the characteristic of that individual that they revere. Ultimately we want to be like our heroes, and the course is designed to identify tools to help us accomplish that.

"...no information was actually given to us...guide the discussion or help answer questions in such a way that...we discovered the answers on our own. The non-linear teaching style really helped to ingrain the topics that we were learning."

"Learning...in California, free from any pressure or stress of any military officer analyzing or critiquing every statement or opinion said by the cadets made the whole experience much more honest and bold as we would truly think outside the realm of traditional concepts."

"Every lesson in the class was the next stepping stone to build upon what you have previously learned to solidify the foundation of creative thinking."

"The multidisciplinary approach is something that must be taught to us...where our mission is based on flexibility and our ability to succeed comes from us leading through complex problems that do not have a specific answer."

Preparation

The class discussed the role of physical, mental, spiritual, moral and strategic preparation for the warrior, both mythical and real.

The Falconer model develops a novel interpretation of *The Art of War* that is helps make the tenets of the book available to each of us in a highly personal way. In order to share this interpretation during the course, the group discussed Lichtman's definitions of the major components of the Sun Tzu:

- 1. *The nation* is you, the individual
- 2. Warriors and generals are you, the individual.
- 3. *Enemies and opponents* are problems, questions, conflicts, or systems to be studied and successfully engaged.
- 4. *Armed struggles, military operations, and battles* are the process of asking questions and finding answers or solutions.
- 5. *The land, terrain, and contours* are the aspects of the problem at hand, the relationship between you and the challenge.
- 6. *Armies, soldiers, and spies* are the resources, tools, skills you have and use to find solutions.
- 7. *Victory* is finding a solution that works. Real victory is finding an elegant solution that has better outcomes than other possible solutions.

Throughout the course the cadets reviewed and discussed various passages of *The Art of War* using these definitions in order to flesh out various aspects of the overall critical thinking methodology.

Finally, the importance of communication is stressed as a key to effective deliberation, both in the class and in real world settings.

"...the critical nature of effective communication in order to disperse information."

Questioning

A central part of the model is that our entire educational and professional development system is based far more on generating answers than on learning to ask questions. Particularly in the internet and Google age, answers are actually pretty easy to come by. Asking questions that will generate good, best, or elegant outcomes is a skill set that we can and should teach. This section reviews elements of the Falconer model of questioning; criteria for effective questioning; and provides examples. Using the example of a course that teaches the roots of Islamic extremism, the cadets broke into groups and wrote sample questions for a course exam, focusing on questions that would lead to deep understanding as opposed to regurgitation of facts and data. A special discussion looked at the issue of questioning authority, particularly in a military context.

"This (questioning) is directly relevant in the military, as I see how if presented with a problem or put into a difficult situation the art of effectively questioning can trigger additional questions, eventually leading one to take many disparate pieces of information and synthesizing it into a solution."

"The "what if" questions cause one to think at another level. It made me consider other possibilities and effects from decisions that I may not have considered otherwise."

Worldview

A metaphorical exercise is used to demonstrate how different personal worldviews impact how we find and solve problems and think about solutions. The group is given definitions of "subjective" and "objective" and asked to determine where they fall on a scale in terms of viewing the world subjectively or objectively. They discuss the meaning of these terms relative to their personal philosophies and test those philosophies against some difficult case statements. Exercises include arguing a position from both sides, and in particular from a side that you don't personally support. Students write and present short descriptions of their own worldview and discuss passages from the *Art of War* that speak to this. As in past seminars, this section tends to challenge students core belief structure with the result that they are more willing to listen to alternative viewpoints and to deliberate rather than debate when faced with complex or apparently contradictory data.

Situational Analysis

This section covered two and a half days and forms one of the cornerstones of the course as it is particularly tailored for USMA cadets. One of the core discussion points when Lichtman and the faculty met in 2009 was the issue of developing concrete methodology to help young officers when faced with complex, fluid, and new situations typical of overseas deployments, particularly in the current environment. The ability to thoughtfully manage large information inputs and develop and communicate an array of appropriate options is as rare as it is critical to a wide range of missions and institutions.

The section involved three segments, all completed in a team-based set of exercises. (Throughout the program, teams were organized and changed frequently, and all cadets took turns as leaders of their respective teams.)

First the teams were given a short period of time to observe and report on a relatively simple system, a square meter of grass. All three teams presented comprehensive but randomly ordered lists of primarily physical components of the observed system, including as well some non-physical attributes.

Next, over a period of about an hour and a half, the class reviewed a list of concrete techniques for accurately and efficiently describing any system as identified in the Falconer model. The teams then repeated the grass analysis, and this time the grouping and ordering of the numerous observed components were more meaningful. However the reports still showed little understanding of the key relationships in the system and were largely a more well-organized regrouping and definition of the first series of efforts.

Next, the cadets were shown a series of short video clips downloaded from You Tube based on a search of "rural Afghanistan". There were about six clips totaling about 25 minutes with subjects ranging from rural health to food and cooking practices to Taliban insurgent strategies. The cadets were asked to observe all that they saw and heard in the videos. The teams were given about one hour to prepare a situational analysis focusing on key relationships and stress factors in rural Afghanistan based solely on their observations. The reports were remarkable in their scope and organization. Of the three teams, two generated intricate and well-organized analysis that covered not only an incredible level of detail that they had observed, but also a mature and sophisticated rendering of the data. In essence, they had very quickly "separated the wheat from the chaff" and communicated their results.

The next day the group visited the San Diego Zoo, a sprawling and complex institution with which none of the cadets had any real previous experience. Breaking into new teams, the groups were tasked to become active rather than passive observers and to conduct a situational analysis using the methodology they had practiced the previous day. They were told they would get about two hours the next day to prepare reports, and that they should assume that those receiving the report also had essentially no previous knowledge of the Zoo. The group spent six hours at the Zoo.

The reports the next day were remarkable, as was the feedback from the cadets about the process that they used. All teams had decided to not only observe but to interact and question, including members of the Zoo office staff, tourists, maintenance crews, and animal keepers. The reports were not only well-organized but insightful into the key social, economic, biological, and environmental aspects and relationships of the institution.

"The systems analysis portion of the program was something I will keep with me forever and use....this interconnectedness helped me realize how important it was to look for and understand second, third, and more order effects when making a decision."

"As for practicality, I plan on using the systems analysis to help me to take large pieces of information and determine a connecting thread or underlying theme. This has obvious applications to academics...but in the Army it is also important. Our current linear approach to the situation in the Middle East

isn't acceptable. We have to learn new ways to approaching the problem and I feel like this seminar will help me to do just that."

"It was amazing to see how things began to weave together and connect after taking apart the system and studying its parts. What was even more educational was the different points of view that everyone in our team took about the system. There were times we had disagreements...in the end it hindered our unit cohesion and effectiveness to work together. Halfway through the class we began to realize that each opinion was important...we listened to each other...began to pick out the pieces that would make our project a success. It was amazing to see who group members began to see common ground...and ask questions about the other persons' information and not try to attack the person for their point of view."

"Given a set amount of information and tasked with the same task each group could and did turn out radically different final projects."

"...in a zoo there are hundreds of different aspects that exist within the system. This made me think how examining a foreign culture would be extremely complex."

Problem Finding, Problem Solving, and SWOT

A key aspect of the Falconer model is the idea that problems are good, not bad. In school we tend to think of problems as obstacles that need to be overcome. In life, and particularly in a business setting, problems are opportunities. The group discussed how to shift their approach to problems and to be aware of the opportunities that they can provide.

Over the weekend, and following the successful situational analysis sections, the program for the following week was modified. Lichtman had prepared a series of business school-type case studies to teach the basics of SWOT analysis as a problem-solving tool. The one rising fourth year cadet, Marc Triller had just heard that he was appointed as ______ for the coming year. He and Lichtman discussed how Triller might use some of what he was learning to help organize effective cadet leadership discussions in the coming year. He had identified morale and disillusionment issues amongst the cadets as a potential area of focus. Triller, Vetter, and Lichtman decided to re-organize the coming SWOT discussion around the case study of cadet morale at USMA. The cadets engaged in the resulting exercises with a high degree of enthusiasm and passion, effectively practicing the tools of both situational analysis and SWOT to generate realistic and specific options that might actually be considered by the cadet leadership.

"SWOT analysis and the nine principles of problem solving we learned, when combined, gave a depth to the problem that could be explored and measured instead of being overwhelming."

Conflict Avoidance and Resolution

Problem solving models must consider what happens when real conflict occurs. The Falconer model at this stage relies heavily on Fisher and Urey's *Getting to Yes*, so a day was devoted to a basic instruction and practice of this model or principled negotiation. As noted in the following quotes, this was a section that frustrated many of the cadets, due in part to the speed with which the material was covered, but also due to the innate frustration involved in solving very difficult multi-party conflicts.

The goal of this section was two-fold. First, to demonstrate the role that dispute resolution plays in the overall problem solving model; and secondly to give the cadets a basic familiarity with the *Getting to Yes* model of negotiation. It was not intended that this would be a comprehensive mediation and negotiation training.

An additional instructor was brought in. Daniel Steussy is a professional geotechnical engineer but is also one of the preeminent practitioners of alternative dispute resolution in the San Diego area, and he kindly volunteered his time to teach and facilitate the exercises. He gave a summary introduction to the *Getting to Yes* model. Then he and Lichtman led a previously prepared case study exercise based on a real example of interaction in Afghanistan between US Army forces, Afghan security forces, local villagers, and Taliban leaning-insurgents. The group split into teams representing these factions and entered into mock discussions, with Lichtman and Stuessy attempting to point out places where the *Getting to Yes* model could help facilitate progress.

Finally, the group discussed the Falconer model emphasis on avoiding serious problems in the first place. While emphasizing that avoiding all difficult problems is not possible, there are concrete ways to minimize some pitfalls that lead later to the most intractable issues.

"...negotiation was especially interesting. I realized that the ability to first take someone else's viewpoint and properly represent it gave me further insight into what someone with the opposite point of view has to go through."

"I learned there is a lot more to conflict negotiation than debating...it had never seemed so hard. Before, it seemed either you debated about who is right or wrong, or you fought it out or sought further diplomacy...a deal takes patience and dedication to reach a conclusion where all parties can write out their own agreement."

Synthesis, or Creational Thinking

Creating new ideas or knowledge, or finding new ways to solve old problems, is a hallmark of true high-order thinking skills, and is the fundamental goal of the

Falconer model. The group discussed a number of examples from science, military, and social history that demonstrate truly new ways to think and solve problems. The group brainstormed the abstract concept of "freedom" as an example of how many directions could be pursued when trying to create a new idea about an old concept.

Failure

Failure is an inevitable potential result to any endeavor, and we generally teach that failure should be embraced for the lessons that it provides. However the realities of our educational and business cultures are far less embracing of failure than we profess. In education in particular, with assessments based largely on quantitative feedback mechanisms, risk-taking and the commensurate risk of failure are heavily disfavored. The group discussed this dichotomy and the cadets were asked to share examples of personal failure and consequences. This is clearly an area for future program development as the military has unique issues, measures, and consequences when it comes to measuring failure of both a group and an individual.

"Perhaps my favorite notion...is that of failure and redemption. As someone who has made many mistakes in their life...this section resonated very strongly with me. The mindset that most of us fall into here at the Academy is that failure is not an option."

"For me the most beneficial turn in the discussion on failure was that feelings associated with failure are a shared human instinct, but how we deal with failure is what differentiates happiness and despair."

Elegance

The final chapter and section of the Falconer model deals with the difference between just any solution and an elegant solution. The group discussed these factors as well as examples of elegant solutions from a variety of disciplines.

Reflection

The cadets were asked to reflect as individuals, and share with the group, one or more new things that they had learned, or new perspectives gained during the course. They were also asked both in their reflection and in their written after action report to comment on how the course did or did not meet expectations. (Generally when asked for this sort of assessment, students will offer positive reflection, so the fact that few negatives were articulated in their reports should only be viewed with appropriate weight.)

IV. Assessment of the AIAD

Based on the written cadet after action reports, reflection at the end of the course, and debrief discussions with cadets and the faculty, the following appear to be the strengths and weaknesses of the course:

Strengths

- 1. The discussion and experiential format, free of a formal assessment structure, promoted an environment where cadets felt free to challenge their own ideas and question each other.
- 2. The structure and content of the team exercises enhanced deliberative and cooperative decision-making over debate in search of one correct answer.
- 3. Cadets learned clearly defined strategies, particularly in the situational analysis and negotiation sections, and could forecast beneficial scenarios in which to implement these skills (and in fact reported doing so during the following semester).
- 4. The format of the course allowed for in-depth discussion and team exercises in terms of the amount of time and flexibility of both time and course organization.
- 5. Cadets rapidly applied both concrete and abstract strategies to exceedingly complicated sets of information and demonstrated significant improvement in their information management and communication skills.
- 6. Cadets articulated an understanding of the need to practice use of problem solving skills in the future in order to retain them when needed.
- 7. The discussion on failure and the role it can play in enhancing problem solving seemed more authentic to cadets than similar discussion of failure in other venues.
- 8. The physical setting promoted freedom of discussion, thought, and expression.
- 9. The San Diego setting was attractive to cadets for a summer AIAD.

Areas to Improve

- 1. The section on mediation and negotiation needs to be re-worked to be less confusing and more instructive. The one-day format for this section is probably unrealistic and left the cadets feeling frustrated that they did not take away the essential skills of the section.
- 2. The program can be reduced by about 1-2 days in overall duration. The final day and a half were not fully and efficiently programmed.
- 3. The section on SWOT needs to be re-thought in terms of the case study. The exercise conducted in this program regarding cadet morale at the Academy was very successful with this particular group of cadets but may not be reproducible or appropriate in a future seminar.

Summary Assessment Relative to Program Goals

1. Is this curriculum appropriate for cadet training?

Based on the cadet feedback and what we saw in the classroom, we feel strongly that this curriculum is important to the skill set that USMA has identified for officer training in today's military challenges. Officers are increasingly required to think at a very high level; to investigate, analyze, and understand complex and rapidly evolving situations; to communicate these analyses both up and down and chain of command; to work with others with significantly differing worldviews; to deliberate complex issues within a team to generate a result, recognizing that other results may be valid as well. The curriculum meets these needs in ways that are not currently part of cadet training.

2. Is it a stand-alone program or are there aspects that can or should be incorporated in either current plebe year problem solving classes, or woven into other coursework at USMA?

It is probably unrealistic to think about this as an ongoing stand-alone program. As an AIAD the number of cadets who could take the course is limited. The importance of allotting large blocks of time to the team exercises makes it difficult to incorporate into the current course schedule. However, the team believes strongly that some flexibility in schedule or the content of other courses should be considered in ways that key aspects of this model can be incorporated into the overall four year cadet experience. This is particularly true as, with any skill set, efficiency will atrophy over time if the skill is not practiced, and these skills are essential to the officers we produce at USMA.

3. What are the constraining factors, if any, in terms of time or other resources that are critical to the program success, if in fact it should be considered for further application at USMA?

The primary constraining factor is time. Both cadets and faculty feel strongly that these exercises cannot be shoe-horned into 55-minute segments any more than can authentic field training. The resource of an off-site location was helpful to developing a creative thinking atmosphere, but may not be critical. Certainly the cadets felt more at ease and able to think more broadly when not challenged with other calls on their time and attention.

4. Are the outcomes assessable?

The faculty feels that the outcomes are assessable, though this is an area that would require additional development. Assessment would need to initially be qualitative to be authentic, but that is not a difficult challenge. Cadets felt that

one of the strengths of the course was that they were NOT being formally assessed, and that this promoted freedom of thought, expression, and risk taking. This dichotomy needs to be discussed further depending on a future set of goals that might be outlined for this program.

5. Is the program singular to Lichtman or is it exportable to other instructors?

While clearly Lichtman is an effective facilitator for this program due to his experience, knowledge of subject, and passion for the content, we do believe that the program, in full or in part, is exportable to other instructors. The content and examples can be further refined by talented instructors with a greater knowledge of how the process can be intimately related to the military experience. The curriculum is really about process and context, and therefore sections of the curriculum are immediately adaptable to other course programs at USMA.

Cadet Comments on the Course and Their Expectations

Finally, comments from the cadets reflect their general impression of the course and how it met their expectations. Again, we are cognizant that positive feedback is generally over-weighted by students in this type of assessment, but in the opinion of the USMA faculty, these responses reflect a singular impact and success of this trial.

"The AIAD went over and above my expectation in facts not relating to the class. We were out of the West Point 'linear thinking' mindset."

"I have gained some extremely important skills that I know I will use forever both in and out of the military and in any leadership position I attain."

"My expectations were met and surpassed."

"I am surprised how much more I achieved than my initial expectation."

"The concepts of questioning, negotiation, and system understanding/problem solving are tasks that we will face as Lieutenants in the current conflict climate. After going through this, real world problems no longer seem as daunting as they once used to be."

"I worry and know that if I don't put this new model of thinking into use as much as possible I will slowly forget how to and revert back into my linear way of thinking."

"The class not only put a definition to all of the things that I wanted to learn but gave me the tools how to use them in the future."

"Although not a goal of the class, I feel as though I understand why there is such a complicated situation in the Middle East and why it is so difficult to solve."

"I can honestly say this AIAD has changed my life to a degree and altered my worldview in a positive way. I now look at complex systems with a new angle and can begin to start thinking of alternate solutions to difficult problems."

"I was interested to see how this would play out, as I felt that (the course) would be redundant to things I already knew and tricks I already had. In all honesty I was skeptical of the trip and what 'critical thinking' actually implied. However, the seminar was far more useful and interesting than I expected."

"The Falconer may be viewed by some as a book that challenges modern pedagogy. I however think of it as a way to challenge everything."

V. Future Directions

The group believes that significant portions of the program that were demonstrated in this AIAD are important aspects of cadet training that meet specific goals of the Academy. The program was deemed a success for those cadets who attended, but the resource allocation is large relative to the small number of cadets who benefited. Ways to extend aspects of the program to a broader cohort of cadets should be seriously investigated. Since such extensions would require at least some modification to schedules or other course programs, buy-in from a broader constituency beyond BSL and CEP is required. Therefore a two-tiered approach to further work is proposed:

- 1. Repeat an AIAD in San Diego this coming summer, possibly in an expanded format. Possible changes that should be considered are:
 - a. Single course reduced from 10 course days to 7.5 course days, allowing two groups in sequence to take the course over a period of 15 course days, or three total weeks.
 - b. One course dedicated to rising second years and one course dedicated to rising fourth years in the cadet leadership team.
 - c. Inclusion of students from other service academies.

It is considered critical that if the AIAD is run again that additional USMA faculty and administration attend for some portion of the courses to observe, evaluate, and be in a position to make determinations about future work.

2. Following the proposed 2011 AIAD, a cross-disciplinary group at USMA will be tasked to develop ways to incorporate aspects of the program into future cadet training or, alternately, sunset the program.