Educating Today's Leaders....Well, Today!

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Winston Churchill commented that, "True genius lies in the capacity for evaluation of uncertain, hazardous and conflicting information."

In the March 2003 *PHALANX*, then MORS President **Ted Smyth**, FS highlighted the working group "The Combatant Commander's Role in Leveraging Combat Analysts" in the MORS Workshop entitled *Combat Analyst: Deploying Quantitative Support to the Combatant Commander* as key to finding ways to assimilate the Combat Analyst into the staff of the JTF commander.

That workshop, held in January 2003, provided insightful recommendations on improving the combat analyst's education and toolkit, and suggested various ways to aid the Commander's "capacity for evaluation of uncertain, hazardous, and conflicting information." One method suggested by the workshop was to provide senior leadership with case studies that highlight how analysis can aid them in demanding decision environments.

Influenced by the MORS Workshop's findings, the Naval Postgraduate School (NPS) Operations Research Department created a pilot certificate program to be taught as an elective series at the Naval War College. A certificate program is a series of courses that leads to a focused skill set. The program was called, "Executive Analysis for the Warfare Commander."

This three-course program's purpose is to provide executive-level education in analysis and risk assessment. It focuses on applied analysis in warfare and program management, and is designed to prepare graduates to better tap their staffs' analytical resources for use in the tactical, operational, and strategic levels of decision making. Essentially, it provides future commanders an appreciation for what their analysts can do for them.

The first pilot course, titled "Analysis in Warfare: Sun-Tzu with a Calculator" was taught in Naval War College's 2004 Spring Quarter. It gives an overview of combat analytical models and methods (from Lanchester to Wargaming), decision analysis methods (decision trees, value of information, game theory, pay-off matrices), and tactical and operational aids (search theory and mathematical programming) – all taught with examples from warfare and operational environments.

The second pilot course called "Surveys in Analysis for the Warfare Commander" was offered in the 2004 Fall Quarter. Through seminars and case studies, this course reviews the analytical methodology, measures of effectiveness, costs, criteria, analysis of alternatives, sensitivity, operational experimentation and precision, as well as the pitfalls of analysis.

The final pilot course, titled "Analytical Tools for the Warfare Commander" was taught in the Winter Quarter 2005, and presented various methods for understanding uncertainty in decision making. Probability, statistics, data analysis, regression, complexity, and simulation are investigated and discussed.

Students participating in the Executive Analysis for the Warfare Commander series are largely from the Naval War College, but some seats were made available to personnel from the Naval Warfare Development Command. The pilot student population has ranged from fifteen to thirty, and the instructors are experienced analysts and educators from both NPS and the Washington, DC area.

How has this series been received so far? Comments from anonymous student surveys include:

"The strength of the class is that it highlights not only strengths, but more importantly — limitations, of analysis. Not only does the student take away how to tap analysts, but <u>what questions</u> to ask them, and a better understanding of the fidelity of the analyst's product."

"These principles and concepts should be taught at TACTRAGRULANT/PAC* [Tactical Training Group Atlantic/Pacific Command]. *[Dismiss] the folks who say this is too "in the weeds." Good decisions start with this stuff. I wish I had this level of understanding while in my command tours."

"It is clearly relevant to operations today. And, more importantly, a <u>necessary step</u> to assessing future warfighting concepts and operational approaches."

"In all honesty, I can't get enough of this course. Decision making tends toward speculation without some formal thought structure, and this provides a fundamental basis. It also emphasizes the relationship between analysis and a decision — they are interrelated, but not the same."

These comments were written by non-analysts and non-mathematicians, but, more importantly, they were written by current and future Navy and Air Force leaders. While these comments are admittedly highlights, overall student feedback has been very positive. These electives are always ranked in the top half of the elective program.

The Executive Analysis for the Warfare Commander series continued as a pilot effort through the summer of 2005. The program has now been renamed "Joint Analysis for the Warfare Commander" and is integrated as a regular part of the Naval War College elective program. Notably, the series is an initiative that directly resulted from a MORS Workhop that identified an educational need. The series is achieving its purpose, which is to provide the combat analyst a boss who will know who, and how, to ask for objective and quantifiable assessments.

Biography

***Jeff Kline** is a senior Military Faculty member at the Naval Postgraduate School in the Operations Research Department. An active duty Captain, he has served over 26 years, commanded two United States ships, and holds a Masters degree in Operations Research from the Naval Postgraduate School. He is a Navy Operations Research sub specialist who spent over three years in the Office of the Secretary of Defense as a Naval Analyst and winner of the May 1992 Chief of Naval Operations Award for Excellence in Operations Research.* ✪