

NAVAL POSTGRADUATE SCHOOL: AN INVESTMENT IN NAVAL AVIATION'S FUTURE

By Rear Admiral David R. Ellison



As Naval Aviation moves into the 21st century, several key acquisition decisions and program changes are being introduced. Manned and unmanned aircraft, standoff weapons and operating systems are becoming increasingly complex, relying more on bytes than bite. Also, the community as a whole

is becoming more and more reliant on officers and leaders who can analytically address today's challenging defense problems in a rapidly changing environment.

The Naval Postgraduate School (NPS), Monterey, Calif., is positioned to provide the Navy and Naval Aviation with the advanced education needed for its



Photo by Ted Carlson

officer corps in the new century. Future aviation programs—as well as the Joint Strike Fighter, F/A-18 E/F *Super Hornet* (above), EA-6B replacement, Multi-mission Maritime Aircraft, CVN-X, SH-60R *Seahawk*, advanced weapons systems and command/control updates—will require Naval Aviators with strong

technical and managerial skills in systems engineering and acquisition. The ability to articulate operational requirements and to manage contracts to reduce cost and schedule is critical to the success of these programs and their support. Additionally, with long lead times for these major defense programs, it is essential that aviators in



management positions understand the processes and tools that bring programs in on budget.

The Navy has embraced Joint Vision 2010, Joint Vision 2020 and network centric operations as the organizing principles for future naval developments. These principles clearly imply that the future operating environment for our forces will be dominated by speed and agility: the speed with which we can understand our environment, share that understanding and make decisions; and the agility with which we can execute to achieve success. Naval Aviation is not unaccustomed to working in a high-velocity environment. But today's technology-driven arenas will require a commitment by Naval Aviation to the pursuit of advanced education if it is to stay at the leading edge of the envelope.

The key to future readiness in the aviation community is officer and enlisted leaders who can effectively deal with changes required by new technologies, as well as reduced manning and rapid innovation. By blending the intellectual capital of resident faculty with fleet-experienced students, NPS has created learning programs that cannot be replicated by any civilian university.

Complemented with guest lectures, team projects and individual research, the synergistic value of NPS to the fleet equates to $2 \times 2 = 5$. Student-led research projects are investigating the next generation of ship self-defense mechanisms, developing navigation safety devices and postulating conceptual generation-after-next, sea-based tactical air systems.

Joint Visions 2010 and 2020 recognize that well-qualified people, innovative leadership and the right organizational structure are needed to prepare warriors for the challenges of the future battlespace. To develop the ideas introduced in Joint Visions 2010 and 2020 for network centric operations, the Navy, and specifically Naval Aviation, needs a high percentage of officers with graduate-level knowledge of science, technology and management, along with a thorough understanding of systems engineering. NPS programs are

tailored to the warfighter by capitalizing on a student's operational experience. Experience enhanced by a thorough education helps NPS graduates expeditiously integrate new technological capabilities into operational applications and evolving tactics and doctrine.

The Naval Postgraduate School has realigned its education and research programs to achieve three major goals. First, maintain academic programs that are nationally recognized and support the current and future operations of the Navy and Marine Corps, our sister services and our allies. Second, institute that focus on the integration of teaching and research in direct support of Joint Visions 2010 and 2020 and their enabling technologies. And, finally, develop executive and continuing education programs that support continuous intellectual innovation and growth throughout an officer's career.

One of the keys to providing NPS students the tools and the intellectual capacity to thrive in the world of Joint Vision 2020 is the establishment of institutes that integrate teaching and research, faculty and students, and theory and application. These major institutes are

being built around the existing strengths of NPS involving faculty and students from across the campus that will cement a strong working relationship with the Navy's Sea Based Battle Lab, the Naval Warfare Development Command, industry and universities. What will make these institutes unique is the integration of NPS students working with faculty on advanced concepts to ensure that our forces remain dominant across the full spectrum of military operations. This effort is already reaching toward achieving our goals via fleet and industry partnerships, and projects such as SEALANCE and CROSSBOW. Both projects address the Navy's need for faster and smaller surface combatants to provide a sustainable combat presence in the littorals.

Opposite, according to the NPS, about 1 of every 3 flights throughout the history of the space program has had an NPS alumni on board. One-tenth of the current astronaut corps is comprised of NPS graduates. Below, the aviation safety officer course is one of many ways the school works to meet the needs of the fleet.

Because of the increasing rate of institutional change driven by technology, it is essential that NPS expands its range of continuing education for our senior leadership, flags and Senior Executive Service members. Our Center for Executive Education will continue to develop a wider range of programs for these senior executives. Concurrently, we are developing new continuing education programs for higher level managers, officers and civilians who are not able to attend NPS in all phases of their careers. This is especially applicable to situations where there are temporary manpower shortages. We will continue to develop professional education programs for those who cannot afford to study in residence.

NPS employs multimedia technology to nurture and sustain these efforts. Through the use of this medium, students on campus and at remote sites, ashore or at sea, will be provided access to the faculty and facilities on campus. Telecommunications and tele-video education will make it possible for NPS to have a virtual campus through which it can provide education when and where there is a demand.

Naval Aviation already benefits in several ways from resident programs at the Naval Postgraduate School. Today, test pilots are first sent to Monterey for advanced aeronautic degrees, and as a result NPS has produced more astronauts than any other graduate-level educational institution in the country. Nineteen current astronauts are NPS alumni—about one-tenth of the total astronaut corps. The School of Aviation Safety grew out of the Postgraduate School to meet the specific needs of the aviation community. Most importantly, when Naval Aviators in graduate programs rotate back to the fleet, they not only enhance fleet readiness and mission capability but also provide forward-thinking leaders that the Navy will need to meet the challenges of aviation's next generation.

It has been determined that education is a key generator of readiness. As the Naval Postgraduate School continues to enhance its educational programs to meet the needs of the fleet, it provides the Naval Aviation community a substantial return on investment. ✈

RAdm. Ellison is the superintendent of the Naval Postgraduate School.

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Javier Chagoya, NPS Public Affairs