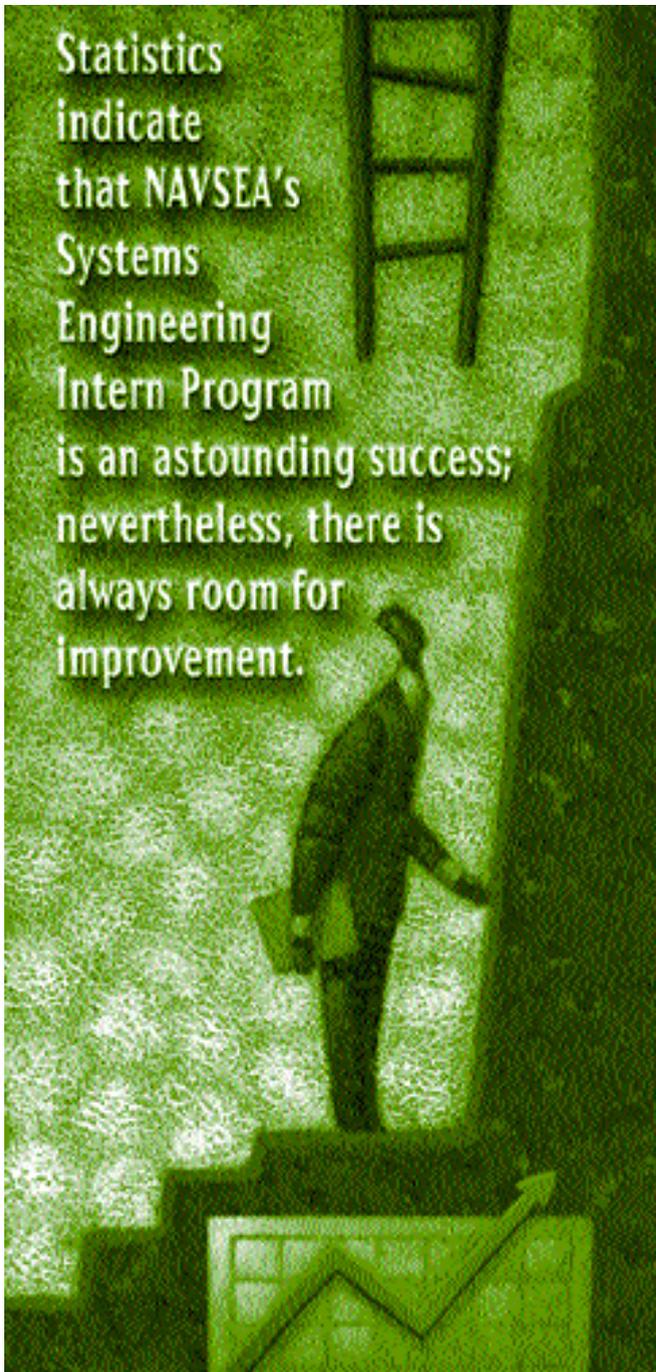


NAVSEA's Acquisition Systems Engineering Intern Program

Enjoying Success, Looking for Improvement

Matthew T. Tropiano, Jr.



The NAVSEA (Naval Sea Systems Command) Acquisition Intern Program (AIP), established on Oct. 1, 1992, was created to build a cadre of highly skilled professionals to meet projected acquisition workforce needs. It is funded by the assistant secretary of the Navy (ASN) through the director of acquisition career management (DACM), and is administered by the career management site in Mechanicsburg, Pa. NAVSEA's Systems Engineering Intern Program, Contracting Intern Program, and Logistics Intern Program fall under the auspices of AIP. Engineering allocations and subsequent hires have progressively increased since the inception of AIP. Last year, 62 interns were hired at 15 different NAVSEA activities through the Systems Engineering Intern Program, and this year, NAVSEA has 68 engineering allocations and 111 allocations overall. The two- to two-and-a-half-year program targets positions at activities nationwide and includes systematic career development with rotational assignments (preferably including a posting at NAVSEA headquarters), mentoring, training, and certification at DAWIA Level II. Interns in the program are referred to as engineers.

Assessing the Health of the Intern Program

Last year, NAVSEA's Systems Engineering Intern Program was evaluated for effectiveness. Forty current engineers, 32 recent graduates, 15 past graduates, and 25 career field managers and homeport supervisors (see page 60 for definitions) were surveyed and interviewed. In addition, 140 interns and graduates in NAVSEA's Logistics Intern Program and Contracting Intern Program are currently being surveyed and their responses evaluated.

In October 2003, after the survey, a national engineering manager's meeting was held to enhance and improve NAVSEA's Systems Engineering Intern Program through the following:

- Reviewing feedback
- Discussing suggestions and recommendations for change
- Sharing best practices

Tropiano, the program manager for Naval Sea Systems Command (NAVSEA)'s acquisition intern programs, holds a bachelor's degree in electrical engineering, a master's in religious studies, and a master's in business administration.

- Committing to best practices and recommended changes
- Establishing contacts for networking and questions.

The survey provided an overall assessment of the program from key participants, as well as insights into the effectiveness of local management at the activity level. The survey pointed out key issues that required refinement, such as excessive downtime during internships and initial experiences on the job. Some concern was expressed regarding administration of the program by both Mechanicsburg, Pa., and NAVSEA Headquarters, and recruitment. Areas receiving high marks included the value of rotations, networking, and hands-on experience.

High Overall Assessment

Overall, the program received a high review. Eighty-seven percent of current engineers and graduates said they would enter the program again. Some of those who said they wouldn't reenter the program cited faster advancement outside the program or the desire to focus on a specific technical area rather than rotate into headquarters.

Nearly 93 percent of the graduates in the program got the jobs they initially wanted, while 74 percent of the engineers in the program stated that their experience, thus far, has met expectations. While systems engineering cannot be mastered in a year or two, 89 percent of managers indicated that engineers were learning systems engineering, and 78 percent of graduates and 63 percent of current engineers also said they were learning systems engineering.

Sixty percent of the engineers surveyed cited rotations, the core of NAVSEA's Systems Engineering Intern Program, as the most valuable aspect of the program. Networking, a derivative benefit of rotations, was also regarded as a value; engineers valued working with leading engineers. Most managers were at a loss as to how to effectively promote their rotations through the Mechanicsburg Web site and NAVSEA's corporate intranet. A few managers requested that interns spend more than the usual three to four months on a rotation.

As engineers described their best experiences, a pattern emerged: more value was derived from events, trips, or rotations that provided hands-on experience. Engineers gave as examples of invaluable experiences, involvement in engineering and design, time on a ship, hands-on experience at a research lab, testing and installation, or a full-scale sea trial.

Several engineers suggested that a broad training course on naval engineering and an orientation to the Navy and Navy ships be offered to remedy a lack of naval background.

The statistics indicate that NAVSEA's Systems Engineering Intern Program is an astounding success; nevertheless, there is always room for improvement.

Improving a Successful Program

The major areas of improvement as indicated by survey respondents were:

- Management training and program awareness
- Downtime and improper scheduling
- Misleading nomenclature
- Administrative issues
- Recruitment.

Management training and increased program awareness

Most noted as requiring improvement were management training and increasing local awareness of the program. Six out of 10 current engineers and graduates indicated insufficiently trained managers as a problem area. Some engineers found that their managers knew little about the program. Some engineers indicated that busy work schedules interfered with time for training, networking, and rotational opportunities. A few engineers felt the manager saw them as free labor rather than as aspiring systems engineers to be developed. Lack of structure, guidance, and oversight were also cited as problematic.

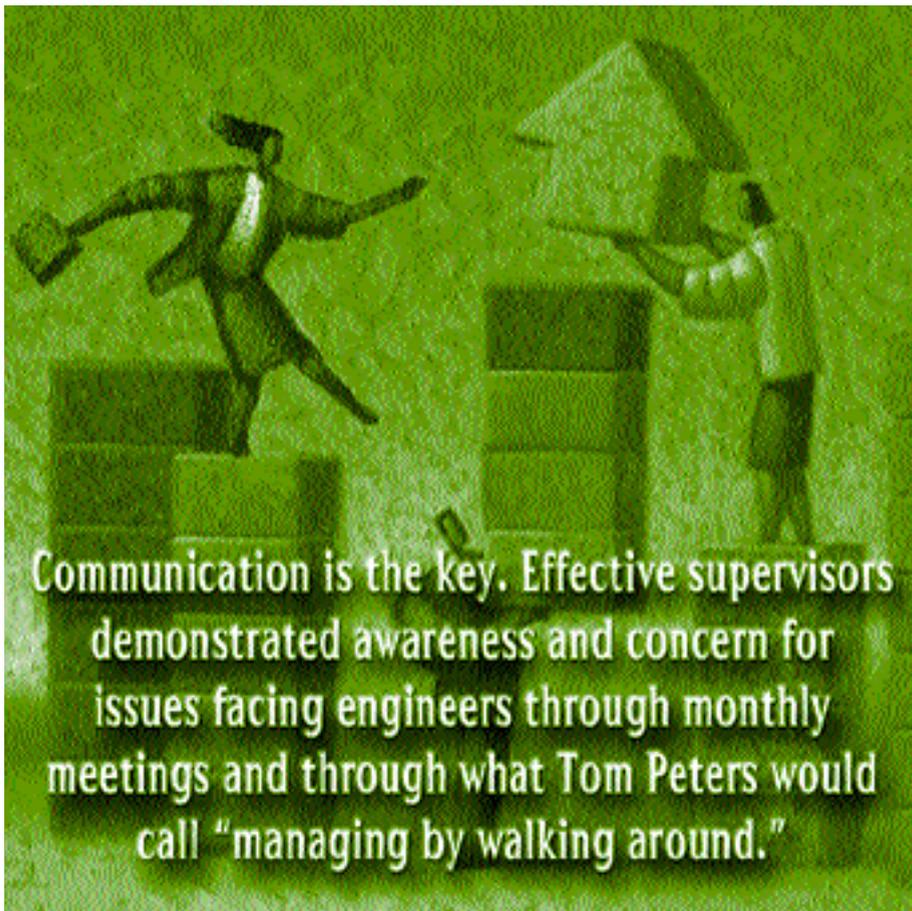
Downtime and improper scheduling

Forty percent of the current interns and 20 percent of graduates cited downtime as an issue. Among the problems were lack of a computer or telephone and delays in obtaining a badge. Some engineers said they finished assignments in two days that their managers expected would take two weeks. Several managers acknowledged that they weren't fully aware of the program procedures and felt shorthanded to run the program properly. One career field manager requested someone to evaluate and help administer the program.

"Intern": misleading nomenclature

Sixty percent of current engineers, past graduates, and managers indicated that the term "intern" was an issue. Several current engineers reported a sense of belittlement associated with the term and reported receiving such questions as "When are you going back to school?" or "Will you be working with us for just the summer?"

When asked about changing the name, some managers thought it would create further misunderstanding. Other managers indicated that the existing term created confusion during recruitment: "The applicants confused intern with co-op," stated one of the career field managers. While several managers understood the engineers' concern, others stated that the name was appropriate and that the issue was merely bureaucratic.



(HR) personnel were proactively involved in the “womb-to-tomb”—recruitment to final graduation and placement—career development of the engineer.

The effective administration and management of NAVSEA’s Systems Engineering Intern Program is not without costs. Managers who successfully administer programs spend from 20 to 25 percent of their time working with the program. However, the benefits are exponential. Success breeds success, and in those activities where the program is administered effectively, the energy and enthusiasm is contagious and passed on to each successive engineer. Programs lacking in effective administration, however, result in an infectious negativity that lowers retention and increases dissatisfaction.

Best Practices and Recommendations

A review of best practices and recommendations focuses on local

management of the program; engineers’ first days and downtime; the “intern” terminology issues; and administration at DACM (Mechanicsburg) and headquarters.

Local management of the program

Effective programs establish and maintain the relationship with the engineer from the time of recruitment to the first day of work and throughout the program. Early in the recruiting year, one career field manager visits various colleges, speaking with potential candidates, and inviting highly qualified candidates to visit Keyport, Wash. Another career field manager presents the advantages and the distinctive features of the program at various engineering job fairs. HR maintains regular contact with the intern from recruitment to job offer and acceptance, through the paperwork process, the first day of work, and throughout the program. At the activity level, the career field manager trains homeport supervisors and rotational assignment supervisors (definitions on page 60), and reviews the purposes and functions of the program.

Following each assignment and rotation, the engineer and rotational assignment supervisor provide feedback to the career field manager about the assignment. The career field manager then reviews the feedback individually with the engineer and rotational assignment supervisor: Is this an assignment that the activity should continue to offer? Can it be improved? Was this rotation

Administrative issues

Forty-four percent of the current interns, 50 percent of the graduates, and 74 percent of the past participants indicated that various administrative areas needed improvement. Paperwork issues, such as travel claims and reimbursements, as well as budgeting, were noted. One engineer was ready to go on rotation when informed that because of the budgeting freeze, the rotation would not be permitted. Other engineers complained they couldn’t take classes as a result of the budgeting problem. Quarterly meetings were also cited as an area for improvement by 20 percent of respondents

Obstacles to recruitment

Fifty-seven percent of the managers’ concerns were in the area of recruitment, although many noted improvement in this area in recent years. The three problem areas were inability to hire engineers until late in the fiscal year, slow response times to hiring actions, and the gap between recruitment and hiring time.

Effective Administration Requires Management Investment

From an overall perspective, the programs that were the most successful (retention of engineers, satisfaction level) were those where the managers were not only actively involved in the program and career development of the engineers, but where the managers and human resources

a good match for this engineer? Successful activities have active instructions for the engineer administration and have one point person available for all concerns. Standardized and centralized training and an annual meeting for career field managers and homeport supervisors were recommended.

Communication is the key. Effective supervisors demonstrated awareness and concern for issues facing engineers through monthly meetings held by the career field manager and through what Tom Peters would call “managing by walking around.” Effective career field managers visited engineers on assignment. At Keyport, a Web site enabled the engineers and newly hired engineers to network. Monthly meetings, the interaction of seasoned and new engineers, and other engagement between engineers all combine to create a supportive network.

Local management of program rotations

In addition to communication between the career field manager and the rotational assignment supervisor, and a written agreement detailing the assignment and equipment provisions, career field managers must continue active engagement with the engineer throughout the assignment. When choosing outside rotations, the career field manager, homeport supervisor, and the engineer must discuss an assignment that will be mutually beneficial, often based on the engineer’s interests, his or her eventual placement, and the homeport activity’s connection with the external activity. Following the completion of a rotation, the engineer and rotational assignment supervisor provide an evaluation. The career field manager reviews the evaluations and makes recommendations and any necessary adjustments. Rotations can also be established through the engineer’s own initiative and postings on the corporate intranet and the Mechanicsburg Web site. One career field manager established a Web site that mapped out engineering rotations, allowing interested engineers to click on the locations, read a rotation description, and find contact information.

Local management of the program individual development plan

At effective activities, the individual development plan (IDP) is completed within three months of the engineer’s start day, in accordance with the *Navy Intern Implementation Manual for Managers* and the *Survival Guide*. The career field manager actively participates throughout its development and fulfillment. One career field manager established an online IDP that allows competencies to be added and provides building blocks guiding interns to fulfillment of competencies.

While it’s understood that the program is implemented and managed in different ways at different locations, some best practices and recommendations can be implemented across the board. Career field managers need

NAVSEA’s Systems Engineering Intern Program Position Definitions

Career field manager—The individual accountable for the content of the intern’s career field development at a command/activity

Homeport supervisor—The individual to whom an intern reports at the command where the target position is located

Rotational assignment supervisor—The individual to whom an intern reports when on an assignment other than with the homeport supervisor.

to better understand their responsibilities, and engineers need to understand their own expectations, as well as the competencies required of them prior to graduation.

Strategies for resolving issues concerning first days and downtime

Many respondents commented on the downtime during their first week on the assignment. Activities must be ready for the engineer; tasking should be defined and documented for the first four weeks. One best practice for beginning engineers is to have rotational assignment managers sign an agreement that on the start date, the engineer will be provided with a phone, computer, and whatever else may be needed. The agreement should also outline the description and objectives of the assignment. The engineer should be registered for ACQ 101 immediately after reporting to work.

A mentor with at least three years’ experience should be assigned to the arriving engineer, who can shadow and receive counsel from the mentor. The mentor also introduces the new employee to co-workers who can provide insight into other work areas. Another simple but excellent practice is to assign an established engineer to meet the starting engineer on the first day. This provides a resource for problems the engineer may encounter, as well as providing another building block and investment in the continual and consistent development of the relationship with the engineer. To this end, pre-arrival communication is essential.

Career field managers must inform and educate the engineers about the reality of working for the government. The arriving engineer needs to understand initial expectations. One manager urges incoming engineers to be patient and understanding and to be attentive to the impressions conveyed through dress, behavior at the computer, and phone conversations. Another manager

encourages engineers to proactively seek out more work if they are not busy. Career field managers need to encourage engineers to network with professionals outside the program across the positional and experiential spectrum. Engineers within a program might not have the answers to some issues, and limiting interaction to that population limits opportunities and broad knowledge.

The name game: improving nomenclature

A biblical proverb says, "Death and life are in the power of the tongue." Put another way, our words have the power of life and death. Since many of the engineers in the program viewed the word "intern" as a "death" word connoting temporary and free labor, it was agreed to call the intern program the NAVSEA Systems Engineering Development Program (NSEDP) and to call the participating members by the appropriate professional title, such as "mechanical engineer" or "electrical engineer."

Communicating with administration: DACM and Headquarters

The engineers pointed out that the National Intern Conference was only helpful if they were able to attend it soon after being hired. If they attended more than six months after starting work, the information lost much of its value. The conference is now held more frequently. Headquarters has streamlined quarterly meetings, involved more engineers in the meetings, and provided relevant speakers at these events.

Programming the Future

Our incoming engineers are the designers and developers serving our future warfighters. We're facing an anticipated bow wave of retirements, meaning that well-run programs such as NAVSEA's Systems Engineering Development Program are more important than ever. Also, we continue to ask more and more of the AT&L workforce (for example, to do more with less), meaning once again that well-run programs such as this are important for shaping the future workforce. We're in competition in the marketplace for new talent. If these programs are poorly run, we will lose that competition.

Through ongoing commitment, involvement, and minor adjustments, we can best serve our future warfighter.



Managers and staff must be involved from start to finish in the development and mobilization of our engineers. The development and training begins the first time AT&L managers and staff meet the prospective engineers. My research has shown that the engineer's first day can be the springboard to an impacting developmental experience or a quicksand to a discontented employee. Managers' involvement, commitment, and knowledge of the program are invaluable and not soon forgotten by the incoming engineers. Hands-on experiences remain prominent on the engineers' minds and vital to their development throughout their training.

NAVSEA's Systems Engineering Development Program has received good reviews, but "good" is the number one enemy of "best." Only through ongoing commitment, involvement, and minor adjustments, can we best serve our future warfighter.

Editor's note: The author welcomes comments and questions. He can be contacted at tropianomt@navsea.navy.mil.