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ABSTRACT

For more than two years, the Center for Naval Analyses (CNA) has been working with Navy Recruiting Command in an effort to increase the recruitment of quality people from community colleges for the enlisted ranks. Part of this effort concentrates on the recruitment of pre-trained people in order to reduce or eliminate the cost of Navy training. Employment trends are increasing the need for technically trained people to fill jobs that require more training than a high school diploma but less than a four-year college degree. Both the state and federal governments are promoting incentives to help young people prepare for the workforce. Two of these incentive programs, the School-to-Work Opportunities Act (STWOA) and the Tech Prep Act, could benefit the Navy by forming partnerships to create tailor-made courses of study around training curricula that have civilian overlap. More than 60% of U.S. businesses with 1,000 or more employees participate in STW programs, and 91% of those businesses provide work-based learning to students. Tech Prep, a part of Title IIIE legislation, combines secondary and postsecondary education programs for technical education leading to placement in employment. This document argues for increased Navy participation in STWOA and Tech Prep partnerships. The paper identifies Navy and civilian overlap in training programs such as air conditioning and refrigeration, information systems administration, and allied health occupations. (Contains 17 references.) (NB)

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Partnerships With Community Colleges: Vehicles to Benefit Navy Training and Recruiting

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Contents

Summary

For more than 2 years, CNA has been working with Navy Recruiting Command on efforts to increase the recruitment of quality people from community colleges for the enlisted ranks. Part of these efforts concentrates on targeted recruiting of pretrained people in order to reduce or eliminate the cost of Navy training. This paper describes two federal programs that could facilitate the Navy's efforts to recruit pretrained people as well as benefit general recruiting efforts from community colleges: the School-to-Work Opportunities Act and the Tech Prep Act. We also offer recommendations on how to apply these programs specifically to the Navy, in terms of the types of targeted fields of study and activities for active participation that are vital components of these federal programs.

Background

Enlisted recruiting and training are two important and related activities of the United States Navy. A- and C-school technical training is expensive and difficult, and it's not easy to find the right mix of recruits who will succeed. Technical ratings require people who score well on the Armed Services Vocational Aptitude Battery (ASVAB) and pass stringent moral and physical requirements. These requirements define a rather limited pool from which to recruit each year. And, often, it is just this type of person who pursues a college education after high school, further reducing the pool of eligible applicants. In fact, increasingly more high school graduates are pursuing college educations after graduation. From 1982 to 1994, the percentage of high school graduates attending college within 2 years of graduation increased from 65 to 72 percent.

Once recruited, sailors in technical ratings spend months in training. The Navy could reduce the cost of training if recruiters had access to people with better academic preparation and civilian-acquired skills that could substitute for Navy training.

American businesses are in a similar position. They are finding it difficult to hire enough entry-level employees with the right skills, and sometimes even the basic skills, to meet their current technical requirements. Employment trends are increasing the need for technically trained people to fill jobs that require more training than a high school degree but less than a 4-year college degree. Without significant changes in the education of American youth, the American economy will suffer. In response, government at both the federal and the state level is promoting incentives to help young people prepare for these technical requirements.

Two of the most relevant of these incentive programs are the School-to-Work Opportunities Act and the Tech Prep Act. Both programs provide students with opportunities to explore various types of careers and to obtain the necessary skills to enter their careers of choice. School-to-Work is for all students, whereas Tech Prep targets the middle 50 percent of students—those who will pursue technical training at a 2-year postsecondary institution after high school graduation, but will not seek a 4-year college degree.

These programs provide for partnerships with secondary and postsecondary educational institutions, businesses, labor organizations, and community organizations. A key component of all partnerships is active business involvement, in advising and guiding curriculum development, as well as in providing the work-based experiences that are vital to the programs. These experiences include participation in career fairs, student mentoring, and opportunities for job shadowing, externships, and site tours.

Businesses are forming partnerships with secondary and postsecondary institutions to help design curricula that best suit their workforce needs. At the same time, businesses participate in these partnerships by allowing students the opportunity to learn firsthand about certain careers, particular industries, and the expectations of employers. Businesses win by having greater access to technically trained graduates who have the right mix of skills. They can also reduce their training costs by eliminating the need for post-employment skill training.

Recommendations

We believe that the Navy could benefit from these programs by forming partnerships to create tailor-made courses of study around training curricula that have significant civilian overlap, such as in the Hospital Corpsman (HM) rating, the enlisted nuclear field, and the Advanced Electronics/Computing Field. Because of the nature of this technical training, the best partnerships would be with community colleges under Tech Prep. If recruiting pretrained graduates could eliminate some or all A- or C-school training, partnerships with community colleges could save significant Navy training costs. And such partnerships would enhance Navy recruiting's efforts at increasing recruiting from community colleges.

Given the level of interest nationally in Tech Prep partnerships, this is an excellent time for the Navy to consider it as a vehicle for saving money as well as increasing the quality of accessions. Therefore, we recommend that CNET and CNRC work together to identify training candidates for Tech Prep partnerships with community colleges. These partnerships could include a variety of programs in which the recruit receives formal college training before entering the Navy, or while on active duty in conjunction with Navy training, or some combination of both. For instance, a high school student who is interested in a 2-year degree could take his or her required liberal arts core at the local community college and then receive a degree upon successful completion of a technical A- or C-school course of study.

In addition to Tech Prep partnerships, other types of partnerships with community colleges could be beneficial to both Navy training and recruiting. As we mentioned previously, Navy Recruiting Command has recently increased efforts to recruit from this market. And other CNA research has shown the potential for significant savings in outsourcing enlisted training to community colleges. All of these studies indicate that community colleges are a rich resource for the Navy. To utilize this resource to the fullest, we recommend that the Navy establish a community college liaison office that would be responsible for establishing partnerships with community colleges, developing prototype programs, evaluating outcomes, and so on. Community colleges are eager for such partnerships, and the Navy has isolated initiatives. But these efforts would be better served by one group whose sole responsibility would be in these efforts.

Introduction

Previous CNA research has highlighted the importance of the community college market for Navy recruiting [1, 2, 3]. It is a large, relatively untapped market of potential quality recruits. And a college education after high school is increasingly becoming the norm. From 1982 to 1994, the percentage of high school graduates attending college within 2 years of graduation increased from 65 to 72 percent.[1] Yet, even with the emphasis on this market in the past year, the Navy has effected only a minimal increase in the number of accessions with Associate degrees [3]. Efforts to improve recruiters' access to campuses and events, as well as their participation in career-oriented activities, would greatly enhance recruitment from this market.

In addition, we have suggested in previous work that the Navy could benefit by outsourcing training to community colleges [4]. More and more, these postsecondary institutions are seeking ways to provide tailor-made training to the businesses and communities that they serve. Many areas of Navy training have direct overlap with that provided by community colleges. Our work has shown that often the community college can provide the training at a much lower cost. However, the difficulty may lie in the loss of militarization, particularly in A-school training, when training takes place on nonmilitary sites.

Another method for outsourcing the training to community colleges is to recruit people who are pretrained and can reduce or eliminate Navy training. Of all types of outsourcing, this has the potential for saving the most in training costs. At the very least, the Navy saves the cost of student compensation while in training. And, recruiting a large enough number of pretrained can also reduce costs associated with instructors and infrastructure. The trouble with this method of outsourcing, however, is that the flow of pretrained recruits can be very

1. National Center for Education Statistics web site: nces.ed.gov/pubs/ce/c9709d01.html.

unpredictable, and it is difficult to assess the competencies of people graduating from different institutions with very different curricula.

Federally funded programs aimed at promoting partnerships between businesses and secondary and postsecondary institutions represent a vehicle for assisting both Navy training and recruiting. These partnerships would allow the Navy to develop, in conjunction with community colleges, Navy-tailored programs of study that would ensure complete overlap with Navy training. Or partnerships could be created that facilitate a recruit's efforts to earn an Associate degree while on active duty, which could be used as a recruiting incentive for the majority of high school students who want to earn college degrees after graduation. These partnerships benefit training by saving costs, and they benefit recruiting by providing a method for creating a better recruiting environment on the community college campus.

In this paper, we describe two of the most relevant of these federal programs, the School-to-Work Opportunities Act and the Tech Prep Act. We then present some recommendations as to how the Navy might participate in these programs.

Federal programs

Background

A number of federal initiatives are seeking to improve the education and skills of American youth. A rapidly changing marketplace, with a much greater emphasis on technical skills than ever before, is one of the reasons for federal involvement in education reform. And the current educational system does not work for a large number of students. In 1992, for instance, only 14 percent of high school graduates met all of the Nation at Risk standards [5].

Educational systems must also meet the challenges of preparing students for a workforce that has greater needs for technically trained people than in the past, while the technology itself is changing rapidly. In 1950, for instance, 60 percent of jobs were for unskilled labor, while 20 percent were for skilled or technical workers. By 2000, we expect a complete reversal: 15 percent of all jobs will be for unskilled workers, and 65 percent will be for skilled/technical workers [5].

A lack of technical skills is not the only reason that today's youth are unprepared for entry into the workplace. In fact, the main reason for rejecting job applicants is that they do not have adequate workplace-related reading, writing, math, and decision-making skills [5]. All of this results in an undesirable situation for both employers and youth seeking to enter the workforce. Just how bad is it on a national level?

- Approximately 23 percent of America's youth fail to graduate from high school.[2]
- Twenty percent of those who do graduate lack the necessary skills for entry-level employment [5].

2. "Dropout Rates in the United States, 1996," at nces.ed.gov/pubs98/dropout/index.html.

- By age 27, the average high school graduate who does not pursue postsecondary education holds nearly six different jobs and experiences four to five periods of unemployment [5].
- Roughly half of all high school graduates fail to find stable employment by the time they are 30 [5].

Some of the government's responses to these issues include tax credits for college tuition, education IRAs, and the GOALS 2000–Educate America Act. But one of the most ambitious initiatives is the School-to-Work Opportunities Act (STWOA) of 1994, which is at the core of many national education reforms. STWOA provides seed money to states to form partnerships with business, labor, government, education, and community organizations. While there is no single model for partnerships, all STW systems allow students to explore various careers and to obtain the necessary skills to enter their careers of choice. STWOA is designed to serve all students, so it includes pathways leading to all types of careers—from those that require only a high school diploma to those that require postgraduate degrees.

Another important program is Tech Prep, which has been in existence longer than STWOA programs. The purpose of Tech Prep is to connect high schools with postsecondary—most often community college—training. The main difference between the two is that Tech Prep serves the middle 50 percent of students, producing graduates who are academically and technically skilled, whereas STWOA serves *all* students for a variety of careers that may or may not require technical training. Thus, many consider Tech Prep initiatives as part of the STWOA efforts.

In the next two subsections, we will provide overviews of STWOA and Tech Prep programs, including a brief history, goals, and some examples of partnerships. In the last section of the paper, we will describe how the Navy could benefit by participation in these partnerships.

School-to-Work Opportunities Act

The School-to-Work Opportunities Act (STWOA) was passed in 1994 to provide a national framework for building local systems to ensure that all students can achieve high levels of academic and technical

skills and prepare themselves for further education and careers.[3] The premise of the Act is that all students can benefit from learning about careers and can better prepare themselves to pursue careers by learning by doing and by applying abstract concepts to real-life situations. If students can have opportunities to discover what careers best fit their interests and aptitudes, they may have less turnover through low-wage jobs, which is common among young people.

The Act also exists to answer employers' needs for a more technically trained workforce. Thus, both employers and employees benefit, and both must be actively involved in STW programs.

Goals of STWOA

The STWO Act has six goals:

1. Help students achieve high-level academic and occupational skills.
2. Widen opportunities for all students to participate in postsecondary education and advanced training, and to move into high-wage, high-skill careers.
3. Provide enriched learning experiences for low-achieving youth, school dropouts, and youth with disabilities; help them get good jobs and pursue postsecondary education.
4. Establish the framework in which all states can create STW systems that are part of comprehensive education reform and career preparation.
5. Increase opportunities for minorities, women, and people with disabilities by enabling them to prepare for careers from which they have been excluded in the past.
6. Use workplaces as active learning environments in the educational process.

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3. Most of the information in this section is from the 1997 Report to Congress on the Implementation of the School-to-Work Opportunities Act.

The intent of the Act is to build on and coordinate existing efforts in education reform, drawing together efforts of schools, communities, and workplaces. Congress anticipated that STW efforts would build, in large part, on a foundation of existing education reform, workforce development, and economic development programs. Congress also viewed this as a short-term incentive, with the expectation that locally designed STW systems would be well on their way by the year 2001, when the law sunsets.

Core elements

The STWOA seeks to restructure education to motivate students to meet high academic and occupation standards, and to give them the opportunity to learn how academic subjects relate to work. School-to-work systems have three core elements to meet these goals: school-based learning, work-based learning, and connecting activities.

The school-based learning combines academic and technical learning with career awareness, career exploration, and counseling programs. Work-based learning requires the involvement of local employers to provide active learning environments. Students should learn about working in teams, solving problems, and meeting employers' expectations. But this involves coordination with classroom learning and workplace mentoring.

Connecting activities combine the school- and work-based experiences. They involve such elements as mechanisms to match students with the right employers, the provision of school liaisons for employers, communication links with parents and other key people, and analyses of information of outcomes of these programs.

To ensure active participation of all key players, the Act calls for broad-based public/private partnerships among businesses, schools, students, and parents. At the local level, the law requires employers, educators, union representatives or employee associations, and students to be included in all STW partnerships.

Who benefits?

According to "School-to-Work Opportunities: An Owner's Guide" [6], all parties benefit from these relationships:

- Students:
  - — Can choose from a wider range of occupations and educational opportunities
  - — Have more opportunities for good jobs after graduation
  - — Obtain actual work experience while going to school
  - — Develop potential contacts that may broaden employment options
  - — Receive a boost in self-confidence and experience success at school and work
  - — Get personal help in meeting education and career goals.
- Employers:
  - — Gain access to an expanded pool of qualified applicants
  - — Influence curriculum development to meet industry needs
  - — Evaluate potential employees in work settings before hiring
  - — Improve the quality of life in the community.
- Educators:
  - — Increase college placement and employment rates of graduates
  - — Participate in improved opportunities for professional development from recruitment to retirement
  - — Integrate academics with actual work and life experiences
  - — Realize reduced dropout rates, improved attendance, and increased enrollment
  - — Come to better understand real-world applications of academic knowledge.

Implementation

To date, all 50 states, the District of Columbia, and U.S. Territories have received STW grants to develop statewide STW systems. Thirty-seven states and more than 1,000 communities have received implementation grants, which are one-time, 5-year, venture capital investments to help establish STW systems.

Mathematica Policy Research, Inc., conducted a national evaluation of these programs, which it presented to Congress. The following are among Mathematica's findings:

- Activities to improve students' career awareness are the most widely available aspect of STW programs.
- Changes in school curriculum are a lower priority than career development or workplace activities.
- Many local partnerships are devoting efforts to promote workplace activity.

Business involvement

The report to Congress notes that employers and labor representatives are becoming more involved in STW efforts by participating on boards and steering committees at both the local and the state level. Their input is used to help identify skills and to create skill certificates, as well as to provide work-based opportunities. Many states are offering incentives to employers to become actively involved, including tax credits to those who provide work-based experiences to students.

Participation in STW programs is fairly large given the relatively short duration of the legislation. Between January and June of 1996, one million high school students participated in one or more of the various school-based activities related to STW.

According to a recent news release from the National STW office, 60 percent of U.S. businesses with 1,000 or more employees participate in STW initiatives, and 91 percent of those businesses provide work-based learning to students. These opportunities include internships, job-shadowing, mentoring, and apprenticeships [7].

The role of postsecondary institutions

In June 1996, nearly all local partnerships had at least one postsecondary institution participating in some STW activity. In its evaluation of programs, Mathematica observed that most of the participation of postsecondary institutions was an outgrowth of a preexisting Tech Prep consortium. In fact, building connections with postsecondary institutions is one of the major challenges to be addressed as STW systems mature.

We will turn now to an outline of Tech Prep.

Tech Prep

Brief history

Tech Prep dates back to the late 1960s and the beginning of articulation agreements between high schools and community colleges. The process became more formalized in 1984 when the National Commission on Secondary Vocational Education proposed changes in vocational education and endorsed Tech Prep as a way to improve coordination between secondary and postsecondary educational institutions.

In 1990, Congress passed the Carl D. Perkins Vocational and Applied Technical Education Act, with the Tech Prep Education Act a part of this legislation (Title IIIE). The Tech Prep component was intended to target public policy and funding toward implementing 2+2 Tech Prep programs. These involve the last 2 years of high school and the first 2 years of postsecondary education, usually at a community college or vocational-technical institution. This legislation allowed states to use basic grant dollars to fund Tech Prep programs.

The Tech Prep Education Act defined a Tech Prep Program as a combined secondary and postsecondary education program with the following characteristics [8]:

1. Leads to an Associate degree or 2-year certification

2. Provides technical preparation in at least one field of engineering technology, applied science, mechanical industrial or practical art or trade, or agriculture, health or business
3. Builds competence in math, science, and communication
4. Leads to placement in employment.

States receive federal funds and then award grants to consortia of local secondary and postsecondary educational institutions.[4] The overwhelming majority of these postsecondary institutions are 2-year colleges. The funding for this program has been about $100 million annually since FY 94 [9].

A 1993 survey of Tech Prep consortia found that the most common provision in articulation agreements was establishing conditions for granting college credit. Other provisions include defining secondary/postsecondary course sequences, revising secondary and postsecondary courses, ensuring Tech Prep graduates slots in postsecondary schools, and granting advanced standing in apprenticeships.

The survey also found that almost two-thirds of Tech-Prep consortia had defined career clusters—broad groups of programs of study [9]. For instance, Virginia has defined the following five career clusters for Tech Prep: Engineering and Industrial Technologies; Health, Human and Public Services; Business and Marketing; Agriculture, Environment, and Natural Resources; and Communications, Arts, and Media [10].

Workplace opportunities

The 1993 survey of Tech Prep consortia found that almost two-thirds made some type of workplace opportunity available. Fifty four percent offered visits to worksites, and 45 percent had related paid part-time jobs during the school year [9].

Other ways in which businesses participate in these programs include the following:

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4. The following web site is a directory of state Tech Prep coordinators: www.cit.state.vt.us/educ/techprep/techprep.htm

- Employers collaborate with teachers to develop curriculum.
- Employers identify future workplace needs to help guide teachers in planning.
- Employers serve on planning and governance boards.

Some examples

There is no typical Tech Prep arrangement, nor is it universally available across the states. Given that, we provide the following examples of the magnitude of involvement for a few states, an example of a consortium in Virginia, and an example of one community college's arrangements to give a sense of the range of activities.

States

In Ohio [11]:

- Participation includes 400 employers, **all** community and technical colleges, many universities, and over 350 school districts in 29 consortia.
- Clusters include Engineering Technology, Business Technology, Allied Health Technology, Plastics Technology, Environmental Technology, and Horticulture Technology.

In Idaho [12]:

- **All** public technical colleges and 90 percent of the high schools participate in six consortia.
- Components of all programs include:
  - — Career counseling beginning at 7th or 8th grade
  - — Training for teachers, counselors, and other personnel
  - — Involvement of business, industry, and labor in the development of programs
  - — Development of a 6-year (grades 9–14) curriculum, including both academic and vocational competencies
  - — Articulated courses with technical colleges

— A certificate or A.A.S. degree for students completing the program.

In New York [13]:

— 20,500 students are enrolled

— 141 high schools, 38 area occupational centers, 40 public 2-year colleges, 19 private postsecondary institutions, and 2 4-year institutions are in 30 consortia.

An example of a Tech Prep consortium in Virginia

The Roanoke Area Tech Prep consortium began in 1990 and comprises representatives from seven school divisions, as well as Virginia Western Community College. Eighteen Associate degree programs have been articulated with all of the seven secondary school divisions. As of 1995, 2,688 students were enrolled in Tech Prep courses, covering all of the five cluster areas that Virginia has established.

An integral part of this consortium is business participation, with more than 900 area businesses participating in a variety of ways, including surveys, panels of experts, industry tours and presentations, job shadowing, apprenticeship opportunities, co-op education, and internships [10].

Seattle Community Colleges (SCC) Tech Prep

In partnership with 14 area public high schools, SCC participates in Tech Prep programs in the following fields of study: allied health, American Sign Language, apparel design, applied math, automotive/diesel technology, business communications, business education, culinary arts, diesel/heavy equipment technology, horticulture/landscape, manufacturing technology, marketing education, TV/video communications, and wood construction.

High school students can earn up to 45 college credits toward Associate degrees as part of this agreement, but students must earn at least B's in their Tech Prep courses while in high school. When they are seniors, they contact College Tech Prep advisors who help them fill out the appropriate forms and assist in making arrangements for college placements tests. After students complete one college quarter,

the advisors submit the proper forms to ensure the award of all Tech Prep college credits earned in high school [14].

Other organizations involved

While the primary players in these partnerships are the education institutions and businesses themselves, other organizations have a vested interest in promoting and assisting in the development of partnerships. We will outline a few of them here.

National Employer Leadership Council (NELC)

The NELC is a coalition of CEOs from a diverse group of private sector companies, with the stated mission to improve both the quality of the nation's workforce and the productivity of American businesses using work-based learning opportunities for all students, as envisioned by the STWOA.

NELC offers a variety of options in which companies can participate in the schools in their local communities. They include [15]:

- For career awareness:
  - — Career talks
  - — Career days/career fairs
  - — Workplace and industry tours
- For career exploration:
  - — Job shadowing (students follow an employee to learn about a particular occupation or industry)
  - — Job rotations (students transfer among a number of positions and tasks that require different skills and responsibilities to learn the steps that go into the product or service)
- For career preparation:
  - — Internships
  - — Cooperative education (students alternate or coordinate their high school or postsecondary studies with a job in a

field related to their academic or occupational objectives, receiving credit for both classroom and work experiences)

— Youth apprenticeships (multiyear programs that combine school and work-based learning in a specific occupational area that is designed to lead directly to either a related post-secondary program entry-level job or a registered apprenticeship program)

— Mentoring (employee instructs the student, critiques the performance, and works in consultation with teachers and employer of the student).

National Alliance of Business

The National Alliance of Business helps form partnerships between educators and employers under the STWOA, providing technical assistance and training, and research and development. Their web site is: www.nab.com.

National Tech Prep Network (NTPN)

The NTPN assists members in planning, implementing, evaluating, and improving workforce education programs. It sponsors national conferences, workshops, publications, and electronic networks.

Most NTPN members are teachers, administrators, counselors, employers, and community leaders who participate in workforce education programs. Business and industry representatives are corporate affiliates and advise the network on partnerships between educational institutions and corporations. The American Association of Community Colleges, the National Association of State Directors of Vocational Technical Education, and other educational organizations serve as organizational affiliates.

The NTPN is proposing a new vision for Tech Prep in which employers will support the Tech Prep program in two ways:

- By providing mentors, teacher and student internships, and instruction at the work sites
- By publicizing their preference to hire people who complete Tech Prep Associate degree programs.

The potential for the Navy's participation

Background

The Navy has established relationships with many community colleges for a variety of reasons, particularly for contract training on naval facilities and for facilitating the assignment of college credit for naval training. Some colleges have also worked closely with local commands to promote postsecondary education for sailors. Currently, Navy Recruiting District Jacksonville is working with the Florida Community College at Jacksonville on a partnership based on the Tech Prep model to offer tailor-made training in naval engineering technologies. For more detail, see [3].

These initiatives, however, are isolated local efforts. We believe that the Navy can benefit by STWOA and Tech Prep partnerships with secondary and postsecondary institutions on a much larger scale. For instance, by providing input in curriculum development about the right types of skills and training that are necessary for a person to score well on the Armed Services Vocational Aptitude Battery (ASVAB), the Navy can help to increase the market for high-quality recruits who will qualify for technical ratings. While this is a direct benefit to recruiting, it could also benefit training if it results in a reduction in the amount of remedial training necessary. For instance, high school algebra is necessary for many of the critical ratings, but many high school graduates lack this mathematical preparation. Many recruits qualify for a critical rating with little or no knowledge of high school algebra and require remediation to complete their A-school course.

An even greater benefit would be if partnerships produce people whose training qualifies them to skip some or all of A- or C-school training. Recruiting pretrained people saves the most in training costs of all other methods of outsourcing. At the very least, it saves student pay and other compensation that is spent during training. With

a programming rate of about $35,000 per sailor, this can add up to significant savings for long technical courses. And, recruiting enough pretrained people to reduce class convenings or close entire schools would lead to additional savings in instructors, supplies and equipment, and infrastructure. In addition, if these pretrained people receive their training in Associate degree programs, they will have broader training than what they would receive in Navy training.[5]

The Navy does have a program to recruit pretrained people with Associate degrees in any of several allied health areas for the Hospital Corpsman (HM) rating. Because of their civilian-acquired skills, these people receive the relevant NEC immediately after graduation from A-school. This is possible, without a formal partnership, because of the overlap between civilian and Navy training in the medical fields. As we have documented, however, the Navy has recruited very few people for this program [3]. A formal partnership with colleges that offer this curriculum would probably increase the number significantly. Why? A partnership would increase the access that recruiters have to career fairs and other activities for targeted majors. And partnerships give greater exposure to the Navy to the students involved, typically over a span of 3 to 4 years.

Much of the curriculum taught in the Navy's critical ratings is at the level of courses offered at a 2-year college or vocational-technical postsecondary institution, rather than a high school or a 4-year postsecondary institution. In addition, building partnerships with community colleges also helps the Navy's efforts at recruiting graduates from community colleges. In spite of concerted efforts in the past year to increase recruiting from this large, relatively untapped market, the Navy has been unable to significantly increase accessions with Associate degrees. These recruits are valuable to Navy recruiting for a variety of reasons, as we have argued elsewhere [1, 2, 3]. For these reasons, we believe that Tech Prep partnerships are the most relevant.

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5. For instance, Associate degree programs require courses outside the field of study—most often English composition and basic college-level math.

Because Tech Prep partnerships are most often between secondary and postsecondary institutions, Navy involvement in partnerships could provide another vehicle for Navy recruiters to gain access to both high schools and community colleges. A Navy recruiter could be part of a community college team visiting local high schools to recruit for the Tech Prep programs, with the Navy recruiter making presentations of how the particular training is applied in the Navy. Under this partnership arrangement, the student will have had exposure to the Navy and a recruiter for at least 4 years before graduating.

But these partnerships also require and depend heavily on active business—in this case, Navy—involvement. For instance, CNET personnel could serve on advisory boards to help determine the appropriate high school and college curriculum for a Tech Prep program. And for partnerships in Fleet Concentration Areas, Tech Prep students could gain exposure to the Navy through job shadowing or other types of experiences. Such participation benefits the Navy because it increases Navy awareness for recruiting and ensures that the civilian training is comparable to what the Navy requires.

What types of training?

Candidates for partnerships are training courses that have the most civilian overlap (e.g., because the equipment is not Navy specific or the information is not classified). Also, much of the training that the Navy offers already has some community college counterpart. For instance, in a previous CNA study, we investigated the potential for outsourcing three courses to community colleges: NEC 4291—Air Conditioning and Refrigeration, NEC 2735—Information Systems Administrator, and the Technical Core Fundamentals for the Advanced Electronics/Computing Field (AECF) A-School. We found significant overlap in all three programs of study with several of the community colleges we surveyed [4].

But even training that does not currently exist as standard community college fields of study should be considered. More and more, community colleges are providing contract training to the businesses and communities that they serve, with tailor-made courses designed with the input of the client. For instance, although industrial laundry and

barbering are not current community college fields of study, some community colleges may be willing to create these as new programs of study under a Tech Prep partnership.

Allied health

Probably the greatest overlap with current community college curricula is in allied health areas. As noted previously, the Navy is recruiting pretrained people from community colleges with civilian-acquired degrees in radiography, clinical lab technician, surgical technologist, pharmacy technician, or dental hygiene for the Hospital Corpsman (HM) and Dental Technician (DT) ratings. But many other specialties within the HM rating are also good candidates, including cardiovascular technologist, nuclear medicine technologist, ophthalmic medical technician, cytotechnologist, physical therapy assistant, and respiratory therapy assistant. Many of these C-schools are lengthy (some are 52 weeks), so the savings in student compensation alone in recruiting Tech Prep graduates could be as high as $35,000.

No C-school currently exists for dental hygienists. Instead, the Navy is sending active duty DT sailors to community colleges for 18 months of training. At a programming rate of $35,000, this costs over $50,000 for each dental hygienist trained in compensation alone.

The Navy could draw on Tech Prep programs in allied health fields already offered at many colleges. Even though there is civilian overlap in these areas, the Navy may want to specify a tailor-made curriculum that matches the relevant C-school training more precisely.

The allied health area may also present a unique opportunity for Navy Tech Prep partnerships with community colleges. Most allied health programs require students to complete an externship, usually in the second year of their training, at a health facility. For many students, the externship will ultimately lead to their first full-time job, so the choice of a facility is important for recruiting purposes. If the Navy established Tech Prep partnerships in allied health areas near Navy facilities, it might be possible to provide externship opportunities in Navy clinics or hospitals. This benefits the college by providing a greater number of externship positions, and it benefits the Navy if such an externship opportunity increases the propensity to enlist.

Technical Core Fundamentals for Advanced Electronics/ Computing Field (AECF)

The Technical Core Fundamentals for the AECF course is an excellent candidate for a partnership because of the overlap in civilian training and because it is a difficult program for recruiting. The yearly requirements for this program are approximately 3,140;[6] however, because of the high ASVAB requirements, the yearly throughput is only around 2,500 sailors.[7] And, because of seasonal variations in accessions, there is a large backlog for the course. In FY 1996, 118 man-years were spent Awaiting Instruction (AI) because of backlogs.[8] If we use a $25,000 yearly cost per person, that equates to a total cost of nearly $3 million for this course as a result of backlogs.[9] The backlogs also contribute to the berthing deficits that arise during the year at Great Lakes.

In our study cited earlier, in which we looked at the feasibility of outsourcing this training to community colleges, we discovered significant overlap with this course and community college curricula in Electronics Technology. We looked specifically at the curriculum offered at Tidewater Community College (TCC) in Norfolk, VA, and concluded that 19 of the 20 weeks of Navy training were covered in TCC's program.[10] This is also an excellent choice because more than 560 community colleges offer Electronics Technology [16]. With so many colleges offering this curriculum, a large number should be willing to partner with the Navy. And, the greater the number of colleges, the greater the flow of potential pretrained recruits.

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6. CNRC September 1996 Monthly Recruiting Brief to CNP.
7. NITRAS Student Master File.
8. The days awaiting instruction due to backlog are from the NITRAS Training Summary File.
9. We estimate a lower programming rate for these sailors because they are the most junior sailors, with lower pay and fewer dependents than the average sailor.
10. At the time of the study, the AECF Technical Core was 20 weeks long.

If the Navy could recruit a significant number of pretrained people, with training that matches the Navy curriculum in the Technical Core, significant savings could result. In addition to the reduction in costs due to backlogs, each pretrained sailor would save at least $9,000 in compensation.[11]

Tech Prep partnerships in the electronics fields could also increase a participant's interest in joining the Navy if the arrangements included Navy hands-on experiences, such as job shadowing or tours of facilities using state-of-the-art electronics equipment. For such arrangements to work, however, the Navy would need to seek partnerships in Fleet Concentration Areas only. This still includes a significant number of community colleges.

Sites visited

We visited six community college with Tech Prep programs in Maryland, Virginia, Florida, and Connecticut to determine whether community colleges might be interested in forming partnerships with the Navy.[12] For each, it was apparent that an important facet of Tech Prep was the extensive involvement of business and industry. In each local area we examined, employers played an active role. They worked with educators to revise technical curricula, contributed to classroom learning by providing up-to-date advanced equipment for training, and created opportunities to experience working in actual business/industrial environments. The community colleges we visited said they work very hard to furnish realistic, comprehensive, and interactive career employment counseling. They offer equal access to all students, thereby contributing to a more diversified work force and potentially better prepared postsecondary students.

11. This is calculated using a $25,000 yearly compensation cost.

12. The colleges were Anne Arundel Community College, Northern Virginia Community College, Pensacola Junior College, Thomas Nelson Community College, Three Rivers Community Technical College, and Tidewater Community College.

All six community colleges had strong Tech Prep programs and consortia with area high schools, but the program clusters they offered varied. Northern Virginia Community College (NOVA) has clusters in the health, human, and public services area, whereas Three Rivers Community College offers primarily electronics. It appears that the community colleges try to develop programs in the concentration areas most in demand by their community.

Some program clusters have sizable student backlogs awaiting the opportunity to take Tech Prep classes. NOVA reported a 6-year waiting list to start its dental hygiene program. The college indicated in meetings that it would eagerly explore potential articulation agreements with the Navy. NOVA is similar to many community colleges that are seeking ways to increase their program capacity by expanding student externships. Enabling schools to do so by allowing externships or student practica at area military facilities would be one enticement for colleges to form partnerships, since providing students high-caliber school-to-work experience was an obstacle to Tech Prep expansion at all the colleges visited.

All six community colleges expressed interest in developing future Tech Prep agreements with the Navy similar to those that exist with industry. They seemed eager to expand career options for their students and were very aware of competition with one another for funding at every level. Because schools apply for Tech Prep grants as a fundamental means of paying for Tech Prep program expansion, a collaboration with the Navy involving the using or sharing of existing government resources (e.g., advertisement, equipment, and/or facilities) is very attractive.

Recommendations for Navy Tech Prep partnerships

Given the level of interest nationally in Tech Prep partnerships, this is an excellent time for the Navy to consider it as a vehicle for saving money as well as increasing the quality of accessions. Therefore, we recommend that CNET and CNRC work together to identify training candidates for Tech Prep partnerships with community colleges. These partnerships could include a variety of programs in which the recruit receives formal college training before entering the Navy, or while on active duty in conjunction with Navy training, or some

combination of both. For instance, a high school student who is interested in a 2-year degree could take his or her required liberal arts core at the local community college and then receive a degree upon successful completion of a technical A- or C-school course of study.

In addition to Tech Prep partnerships, other types of partnerships with community colleges could be beneficial to both Navy training and recruiting. As we mentioned previously, Navy Recruiting Command has recently increased efforts to recruit from this market. And other CNA research has shown the potential for significant savings in outsourcing enlisted training to community colleges. All of these studies indicate that community colleges are a rich resource for the Navy. To utilize this resource to the fullest, we recommend that the Navy establish a community college liaison office that would be responsible for establishing partnerships with community colleges, developing prototype programs, evaluating outcomes, and so on. Community colleges are eager for such partnerships, and the Navy has isolated initiatives. But these efforts would be better served by one group whose sole responsibility would be in these efforts.

References

[1] Peggy A. Golfin. *New Markets for Recruiting Quality Enlisted Personnel,* Mar 1996 (CNA Research Memorandum 95-221)

[2] Peggy A. Golfin. *FY 1996 Navy Recruiting Efforts in Community Colleges: A Summary Report,* Feb 1997 (CNA Research Memorandum 97-10)

[3] Peggy A. Golfin. *A Summary of Navy Recruiting Efforts in Community Colleges in FY 1997,* Mar 1998 (CNA Research Memorandum 97-139)

[4] Peggy A. Golfin, John D. White, and Lisa A. Curtin, CDR, USN. *A Role for Community Colleges in Navy Training,* Mar 1998 (CNA Research Memorandum 97-97)

[5] Internet web site: www.flstw.fsu.edu/stwwhy.html

[6] "School-to-Work Opportunites: An Owner's Guide" web site: www.stw.ed.gov/general/owners.htm

[7] School-to-Work Opportunites web site: www.stw.ed/gov/pr/pm6.htm

[8] Debra Bragg. "Emerging Tech Prep Models: Promising Approaches to Educational Reform." *Centerfocus,* #5, June 1994

[9] Internet web site: inet.ed.gov/pubs/Emergence

[10] Tech Prep in Virginia 1990-1996: History of Virginia Consortia. Virginia Community College System Public Affairs Office

[11] Internet web site: www.ode.ohio.gov/www/ve/ofw_tp_fact.html

[12] Internet web site: www.state.vt.us/educ/techprep/brief.htm

[13] Internet web site: www.nysed.gov/workforce/tpquick.html

[14] Internet web site: www.sccd.ctc.edu/techprep/programs.html

[15] Internet web site: nelc.org/model.shtml

[16] *Peterson's Guide to Two-Year Colleges 1997.* 27th ed. Peterson's, 1996

[17] *Chronicle of Higher Education Almanac,* 2 Sep 1996

Nicole Seymour

From: "Nicole Seymour" <stargirl@ucla.edu>
To: <conferenceregistration@cna.org>
Sent: Friday, April 04, 2003 1:59 PM
Subject: Re: Conference Proceedings

Dear Ms. Lynch:
Were there conference proceedings produced for the recent Navy Workforce Research and Analysis Conference? If so, how may I obtain them? I am interested to see if any relevant papers were produced for our clearinghouse.

Thanks so much for your time.

Sincerely,

Nicole Seymour
Acquisitions Coordinator
ERIC Clearinghouse for Community Colleges
Phone: (800) 832-8256
http://www.gseis.ucla.edu/ERIC/eric.html

Michelle Plecha

From: "Michelle Plecha" <mplecha@ucla.edu>
To: "Caroline Sheldon" <csheldon@Cerritos.edu>; "Queen Hamilton" <reina_m@msn.com>
Cc: "Pam Schuetz" <pschuetz@ucla.edu>
Sent: Monday, March 31, 2003 1:29 PM
Subject: Re: AACC Presentation

Hello Ladies,
As you can see below we have generated a series of questions related to the AACC GALE presentation. These questions are meant to provide points for discussion only. Please do not feel restricted by them.

We would like to finalize the session format this week. Would you be available for a conference call Wednesday April 2nd between 9:00 and 10:30am?
Michelle and Pam

GALE Presentation
1. GALE researchers describe the project including the process of developing the survey instrument and recruiting college participation (5 minutes each). Pam and Michelle

2. Panelists from two participating community colleges speak about their schools' participation in the study including challenges and rewards (7 minutes each –15 minutes total). Queen and Caroline

Your Institution's Participation
How did you hear of the GALE project?

Following the GALE orientation meeting how did your college come to participate in the GALE study? For example, how was the project presented to your college, in what forums was participation in the study discussed (i.e. meetings) and who ultimately gave the green light to participate in the project?

Describe your role in the implementation of the GALE project? Did you work with a team? What were the tasks involved and who coordinated them? How did you generate support among college administrators, faculty, and/or students to participate in the study?

Challenges and Rewards
What were the greatest difficulties in facilitating the study (i.e. generating support among administrators, coordinating between UCLA and your institution, organizing faculty participation, etc.)?

What were the greatest rewards?

Is there anything that you would you do differently or advice you would give to others?

3. GALE researchers present the aggregate results of the GALE study (10 minutes). Michelle and Pam

4. The community college panelists discuss their colleges' results (7 minutes each - 15 minutes total). Queen and Caroline

What did you find? (Descriptive statistics are fine here).

How have you or the college used or plan to use the results?

5. The session concludes with audience interaction (10 minutes).

The only equipment available to us will be an overhead projector and handouts might be a good idea.

Cultivating Participation Cerritos College

- Study related discussions at key meetings
- Letters of introduction from the President/Provost
- Strong emphasis on the nature of the study
- Ample opportunity to administer

GALE Implementation
Cerritos College

- Coordinated by Research and Planning
- Challenges – divisional culture
- Rewards – full participation, deans

Results
Cerritos College

- Student Learning Outcomes at Institution Level
- Examining data
- Work with Faculty Senate and various subcommittees to establish performance targets, strengthen curriculum, and pedagogy

Hotel Information								
	Thurs 4-3	Fri 4-4	Sat 4-5	Sun 4-6	Mon 4-7	Tuesday 4-8	Room Information/Rate	Confirmation #
Cohen		Check in Adams Mark			Check out hotel		Concord-King bed/ $200 Early check in requested	0225102803
Michelle & Pam		Check in Adams Mark			Check out hotel		Standard-2 Double beds/ $175	0226502803
Carol & Rozanna	Check in LaMeridian			Rozana leave		Check out hotel	Standard $129	SK92R
June & Caroline	June Check in LaMeridia		Caroline in	June out	Caroline out	Check out hotel	Standard-2 Double beds/ $139	5L023

Adams Mark Hotel 214-777-6534
LaMeridian Hotel 214-979-9000

AACC/ CSCC Conference Schedule

Friday 4-4	Saturday 4-5	Sunday 4-6	Monday 4-7	Tuesday 4-8
CSCC	CSCC			
AACC pre convention	Marketplace opens 7:00 pm		Marketplace closes 2:00 pm	AACC ends 12:30 pm
CSCC GALE Presentation 10:25-12:00	State Directors Meeting 10:00 to 3:00 State Rm 1, 3rd Floor		ERIC Breakfast 7:00 am – 8:30 am Trinity 1	

			AACC GALE Present 11:15 am	

AACC Travel Itinerary

		Flight #	Seats
April 4	Leave LA 10:31 am	2432	9B, 9C
	Arrive Dallas 3:28 pm		
April 7	Leave Dallas 3:21 pm	1421	11A, 11B
	Arrive Houston (IAH) 4:26 pm		
April 9	Leave Houston (IAH)11:37 am	1212	9 A, 9B
	Arrive Dallas 12:44 pm		
	Leave Dallas 2:24 pm	2445	9B, 9C
	Arrive LA 3:31 pm		

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

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