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Veterans' Education in Science and Engineering: Evaluation Design

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Introduction

In March, 2010, the National Science Foundation, Directorate for Engineering, Division of Engineering Education and Centers awarded a grant (#0958290) to the Center for the Study of Higher Education (CSHE) at The Pennsylvania State University to develop an evaluation of NSF's Veterans' Education in Science and Engineering grant program. This program, which began in 2009, awarded 16 grants to universities across the country to explore new ways to encourage the enrollment and participation of military veterans in engineering programs.

Legislation passed by Congress in 2008 (Title V of PL 110-252) greatly increased the value of the GI Bill benefits available to military veterans who served after September 10, 2001. The Department of Veterans Affairs (VA) expected a surge in the number of veterans enrolling in college in response to the new legislation. This expectation has been borne out, as the VA reported, "By the end of December 2010, VA issued nearly \$7.2 billion in tuition, housing, and stipends for more than 425,000 Veterans or eligible family members pursuing higher education under the Post-9/11 GI Bill" (Department of Veterans Affairs, 2011).

The Veterans' Education in Science and Engineering grant program was developed in response to this increase in veteran students, encouraging their enrollment in the field of engineering. The goal of the program is to capitalize on the technical training and experiences received by veterans while serving as active duty military personnel, and encourage them after separating from the military to enroll in postsecondary education in order to complete a degree (either baccalaureate or graduate) in a STEM (science, technology, engineering, and math) discipline. The grant program is an initiative first recommended by a workshop held at the NSF in April 2009, which resulted in the development of the report, *Veterans' Education for Engineering and Science* (NSF, 2009). The initial grants issued by the NSF focused on a variety of strategies to encourage veterans to enroll in and complete both baccalaureate and graduate engineering programs. As described in an NSF summary of a meeting held for program grantees in March, 2011:

The focus of the awards given to date can be divided into one or more of four broad and synergistic categories:

- understanding veterans, particularly their needs,
- increasing the number of veterans in degree programs,
- understanding the overlap between military training and university courses, and
- developing programs and campus infrastructure to recruit and retain veterans (National Science Foundation, 2011, p. 3)

The purpose of the grant awarded to CSHE is to develop an evaluation for NSF and its grantees to use in determining the success of program outcomes. As part of its grant, the project team examined existing national databases that could potentially be used to determine the number of veterans eligible and qualified for entry into postsecondary STEM programs. The team also developed a methodology for assessing whether a college or university could be classified as "veteran friendly," and assessed a number of institutions based on these criteria. This assessment was then used to select a subset of institutions from which to gather more detailed data regarding programs and services available to veterans that enable (or hinder) their success in college.

The project team then selected three of the initial NSF grantees for site visits, collecting data on how engineering programs and services at these institutions were being changed to encourage the enrollment and success of veteran students. The final part of the project was the creation of an evaluation design for NSF's use with future grantees.

The CHSE project team consisted of:

- Dr. Donald E. Heller, Co-Principal Investigator
- Dr. Robert Hendrickson, Co-Principal Investigator
- Dr. Kimberly Griffin, Faculty Associate
- Theodore Timmerman III, Research Associate
- Claire Gilbert, Graduate Research Assistant

Methods

National Databases

One of the project activities of our grant was to attempt to mine existing data from veterans' educational services with two ends in mind. First was to determine if there was a correlation between a veteran's Military Occupational Specialty (MOS) and the selection of engineering or STEM programs as degree majors. Secondly, we wanted to identify prospective students with technical backgrounds who might be recruited into STEM fields. To accomplish this we looked at the following three resources.

The Department of Veterans Affairs (DVA) VA-Once system is the portal through which a veteran's enrollment in an institution is submitted. While it does not specifically include the veteran's service data, we hoped it might provide a conduit to connect the degree pursued with other information the VA maintains on the veteran such as service branch and MOS. Several attempts to reach the DVA Educational Services Office (which administers the GI Bill) were not successful. This was somewhat understandable in view of the challenges the DVA has faced in the administration of the Post 9/11 GI Bill (Chapter 33). Next we contacted the VA's National Center for Veterans Analysis and Statistics. Mr. Dat Tran responded that "At this time, the current VA system does not allow us to capture the type of statistics you are looking for. VA, however, is developing a new long-term IT solution to process and track CH33 that potentially will allow us to capture these types of statistics." It is unknown when this system will be in place.

Another resource we contacted was the American Council on Education (ACE) military training evaluation program. We found that ACE also does not compile data on veterans, but focuses instead on the evaluation of military courses and career fields for possible college credit. Cynthia Bruce, Director, Military Evaluations for ACE told us that while the ACE evaluations inform the transcript registries that document a servicemember's military education and training, she was not aware of any central database of this information (outside of what may be available from the individual military branches themselves), nor is there any systematic means of compiling the data from the transcripts.

Finally we reached out to the Servicemembers Opportunity Colleges (SOC) Consortium. The Consortium's president, Kathy Snead, confirmed that they maintain no database that would provide us with the MOS information needed to inform this part of our project.

In summary, there does not appear to be a database on a national level that tracks specific military transcripts in a way that could be mined for trends, or could generate a list of students who might be uniquely prepared or interested in a career in the sciences and engineering. Until such a time that the VA system is prepared to provide that information, data would have to be collected by contacting each institution individually.

Troops-to-Teachers Program

The Troops to Teachers (T2T) program was established in 1994 as a Department of Defense program. In 2000 the program was transferred to the Department of Education. The program is designed to assist veterans in developing a second career as a teacher in K-12 schools. The program emphasizes preparing veterans as teachers in the STEM disciplines (science, technology, engineering and math) and special education. It's focus is on supplying teachers to school districts with a high concentration of low income students. The program provides financial aid, placement assistance, and referral services through state offices that assist veterans in finding a postsecondary institution to achieve state teacher certification requirements. The "No Child Left Behind Act of 2001" provided ongoing funding for the T2T program. The program provides a \$5000 stipend for veterans enrolling in a program to become certified as a teacher. Those receiving the stipend must teach for three years. A bonus of \$5,000 is awarded if they began their teaching career in a school district with a high concentration of low income families (50 percent of students on free and reduced lunch program).

The program appears to be in a state of flux and it was difficult to find state coordinators who would agree to be interviewed. The Texas state coordinator agreed to speak with us. In contact with other state coordinators, I was told that Texas had the one of most active programs in the country. There are several ways for veterans to become certified teachers in Texas. One route that is standard for most states is to attend a teacher certification program at one of the higher education institutions approved by the Texas Department of Education. With 1,036 school districts and 400 charter schools in Texas there is a shortage of certified teachers resulting in the need for an alternative certification program. This unique alternative certification route involves some course work in pedagogy, content area testing, and an internship in a classroom with a certified teacher. About 50 percent of the new teaching certificates awarded in Texas each year are through the alternative teacher certification program. The Texas Coordinator stated:

Many of the individuals that will come through my office and go into certification and become teachers achieved their degree while on active duty – 69 percent of hires were in the military and enlisted personnel and where that is important is that enlisted personnel are the people who got their degree while on active duty and the degrees that they have are heavily management, psychology, and human resources they are going to be degrees in things other than STEM. And a lot of that has to do with the availability of coursework – an individual who isn't right by a four year university might be able to get Algebra I and II on the base, but not a lab-based science. And one of the things that I wish for would be that colleges would develop mathematics courses that are designed to be taken online and to have upper level math classes because students have to have these to go into engineering or become a math teacher and trying to get that if they aren't near a university is really challenging. And with the new GI Bill and with the active duty tuition assistance you have financial resources that would enable people to take these classes if they are available and if they are if we could work with the military education centers across the nation then these individuals are going to be able to coordinate a pre-engineering program, etc. there are a lot of people who have a bent for mathematics but

can't get the courses on the military installation. And universities can't afford to run classes on base for just a few people, but online classes could work.

In terms of recruitment the Texas office does reach out to active duty military personnel to educate them on the T2T opportunities. Many of the veterans are walk-ins inquiring about careers as a teacher. They are briefed on the various certification routes and postsecondary institutions where they could pursue teacher certification through a bachelors or master's degree. Institutions across the state have recruitment programs to attract these potential veteran students.

The demographic makeup of the veterans who go into teaching careers through the T2T program in Texas is as follows:

1. Of the veterans hired as teachers in Texas 85 percent are male and 43 percent are minorities.
2. Of those enrolling in the T2T program 82 percent are enrolled in classes for three years or longer and the retention rate for completing a certification program is 82 percent.
3. 95 percent of the veterans enrolled in a teacher certification program already hold a bachelor's degree.
4. 50 percent of those who pursue an undergraduate degree to become a teacher do not complete the program.

The placement of T2T veterans in school districts in Texas is very high and in fact Texas leads the nation in teacher placement of veterans. The Texas state T2T coordinator reports that school districts find the T2T veterans are very effective teachers and seek out veterans as teachers. Of the T2T veteran teachers 63 percent are teaching in high-needs school districts. Of the veterans teaching in high-needs schools the breakout is 24 percent in small towns, 24 percent in rural districts, and 24 percent in inner cities.

Since these are state programs, they do not get involved in the application of military experience and training through the ACE Military evaluation system as credits applied toward a teacher certification program. This is an institutional issue and the implementation of awarding credits from the ACE transcript would be similar to what we found in our institutional sample. One finding that is similar to our findings is that there is a need for recruitment and planning during active duty so that the transition to a second career can be achieved within a reasonable time frame after separation from the military. A second finding is the need for advanced mathematics courses available (including on-line) to active duty military personnel. This would allow for an increase in veterans choosing STEM majors.

Veteran-Friendly School Characteristics

As part of the evaluation design strategy, we proposed conducting site visits to five veteran friendly institutions. In order to select these schools, we sought to determine what criteria a truly

“veteran friendly” school might possess. Based on our review of the literature¹ and investigation into schools that have a reputation for being veteran friendly, the primary criteria we identified are:

- The presence of a veteran’s office and/or on campus veterans counselors and services
 - Services provided by such an office might include:
 - assistance with university and Veteran Affairs paperwork
 - programs to assist students called up to active duty
 - orientation programs or programs for veterans helping them adjust to college life
 - participation in the American Council on Education/National Association of Student Personnel Administrators program for disabled vets
 - an active veterans support group
 - service available to assist veteran students with post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI)
 - active lobbying efforts to improve institutional services and/or state and federal veteran support
 - other programs available to veterans and families
- Explicit institutional focus on student veterans in the form of task forces or committees to address their needs and issues
- College credit for military training and experience
- College credit for standardized tests (CLEP and DANTES)
- Faculty awareness of veterans in the classroom
- Access to tutoring services and refresher courses
- Easily navigable and executable procedures for students called to active duty who must exit/re-enter the institution
- Accessible disability and counseling services
- Flexible academic options, such as:
 - Online course offerings
 - Weekend, evening, or early morning classes
- Participation in the Yellow Ribbon Program (institutional grant aid to close the gap between tuition costs and GI Bill benefits)
- Veteran-knowledgeable staff in other institutional offices
- Institutional provision of transition assistance or orientation specific to veterans
- Presence of a veterans’ student group
- Application fee waivers for veterans
- An on-campus military presence (e.g., ROTC)
- Status as a Servicemembers Opportunity College

An institution would not be expected to have all of these programs or characteristics to qualify as veteran-friendly, but we used these criteria to informally score institutions identified for potential site visits.

¹ See Ackerman, DiRamio, and Garza Mitchell (2009), Cook and Kim (2009), DiRamio and Spires (2009), G.I. Jobs (2010), and Hermann, Hopkins, Wilson, and Allen (2009).

Site Selection

As part of the evaluation design strategy, we proposed conducting site visits to five veteran friendly institutions and three of the NSF initial program grantees. In the previous section, we note the criteria we considered to determine whether institutions were veteran friendly. We used these criteria to evaluate potential site selections, including the grantees, so that we would have a baseline understanding of the campus characteristics with relation to student veterans. We started with a sample of institutions based on geographic proximity, as well as overlap with potential grantee sites, along with an array of different institutional types (including community colleges, research universities, liberal arts colleges, and comprehensive universities). The results of this analysis are shown in Appendix A.

In addition to our veteran friendly criteria, we selected schools on both the veteran friendly and grantee side that would provide a unique perspective on this student group. We sought diversity on items such as geographic location, institutional type, grant focus (for grantees), and institution control (public vs. private). Our specific reasons for each site selected are detailed below.

Veteran-Friendly Institutions

Harrisburg Area Community College

Harrisburg Area Community College (HACC) was selected as a veteran-friendly institution due to its overall veteran-friendly status (based on our veteran-friendly criteria identified in Appendix A), specific institutional focus on student veterans, and its position as a community college in an area lacking a large military presence.

The Pennsylvania State University

Penn State (PSU) was selected as a veteran-friendly institution due to its overall veteran-friendly status (based on our veteran-friendly criteria identified in Appendix A), specific institutional focus on student veterans, large population of veteran students, and its position as a large, public university with a significant presence in online education.

San Diego City College

San Diego City College (SDCC) was selected as a veteran-friendly institution due to its overall veteran-friendly status (based on our veteran-friendly criteria identified in Appendix A), specific institutional focus on student veterans, large population of military and veteran students, and its position as a public community college in an area with a large military presence.

San Diego State University

San Diego State (SDSU) was selected as a veteran-friendly institution due to its overall veteran-friendly status (based on our veteran-friendly criteria identified in Appendix A), specific institutional focus on student veterans, large population of military and veteran students, and its position as a public comprehensive university in an area with a large military presence.

Widener University

Widener University (WU) was selected as one of our four veteran-friendly site visits due to its overall veteran-friendly status (based on our veteran-friendly criteria identified in Appendix A),

specific institutional focus on student veterans, and its position as a small, private, liberal arts university.

NSF Grantees

San Diego State University (grant #0946778)

The NSF grant program at San Diego State was selected because of its focus on evaluation of the ACE Military Transcript database to improve the evaluation and assignment of military training to university credits in engineering. The overall goal is to improve the time-to-degree for engineering students to better capitalize on experiences and credits earned while on active duty in the military.

University of San Diego (grant #0948070)

The engineering program for veterans at the University of San Diego was selected as one of our three grantee site visits due to its undergraduate program focus; its status as a selective, private liberal arts university; and its location in a city with a large military presence.

University of Virginia (grant #0948472)

The University of Virginia (UVA) was selected as one of our three grantee site visits due to its program focus on an accelerated master's program (in systems engineering); its status as a high selective, public university; as well as its proximity to Washington, DC and the large military and military contractor presence in the metropolitan Washington, DC area.

Site Visits²

There was a standard data collection process followed for all visits. After approval from the institution to conduct the research, a site contact was identified who arranged the schedule for the visit and help to identify offices and individual to be interviewed. We developed interview protocols for the various offices providing services to student veterans, as well as a specific set of questions for the program coordinator of the Engineering College/School/ department for both the veteran friendly institutions and NSF grantees (Appendix B). A protocol for a focus group with currently enrolled student veterans was also developed (Appendix B). Approval from the Institutional Review Board (IRB) at Penn State was obtained for the project on September 16, 2010 (IRB #34720). In addition, the University of San Diego, the University of Virginia, and Widener University each required us to obtain IRB approval from their campus boards (which was granted), while the other campuses relied on the Penn State IRB approval.

At least one of the co-PIs or Faculty Associate and a graduate research assistant visited each campus. Each person interviewed or who participating in a focus group was asked to sign a consent form before proceeding with the interview/discussion. All interviews and focus groups were recorded and transcribed. To protect confidentiality, student veteran focus group participants were assigned a number.

Below is a brief summary of each site visit. Detailed descriptions of each site visit can be found in Appendix C.

Summary of the Site Visits

Veteran-Friendly Institutions

Three of the veteran friendly institutions (HACC, PSU, and SDSU) had a Veterans Affairs office whose director served as the contact for our visit. At WU we were assisted in developing the schedule for the visit by the Dean of the Evening College, and at SDCC we were assisted by the Director of Off-Campus Programs.

Harrisburg Area Community College: The site visit took place on September 28-29, 2010. The first day the research team was Robert Hendrickson co-PI, Claire Gilbert, Graduate Research Assistant, and Ted Timmerman, Research Associate. The second day the team was Donald Heller co-PI and Kimberly Griffin Faculty Associate. The institution enrolls 1,296 veterans (including those who have identified but are not using GI Bill benefits) out of 32,180 students. The offices and service areas interviewed were:

- The Director of Financial Aid
- The Counseling Director for the College
- The Director of Enrollment Services and the Assistant Director of Enrollment
- The Coordinator of the Records Office

² The authors wish to acknowledge the assistance of Rachel Frick Cardelle, CSHE Graduate Research Assistant, in conducting the site visits.

- Individuals associated with HACC's Military and Veterans Affairs Office, Advising Center, academic assistance services, disability services, and counseling and psychological services
- A focus group of five student veterans

San Diego City College: The site visit took place on November 3-5, 2010. The research team was Kimberly Griffin, Faculty Associate and Ted Timmerman, Research Associate. The offices and service areas interviewed were:

- The Chair of the Counseling Department
- The Tutorial Center Coordinator, Math Center Coordinator, and English Center Coordinator
- A counselor within SDCC's Disability Support Programs and Services office
- The Director of Off-Campus Programs and the SDCC Districts Coordinator for Military Educational Programs
- The Coordinator of Adult Counseling and an intern in the Mental Health Services office
- The certifying official for VA benefits/admissions technician of SDCC
- An Admissions Officer & Records Supervisor
- The Director of Military Programs
- The Director of Financial Aid
- The Department Chair of Engineering and Technology
- A focus group of three student veterans attending SDCC

The Pennsylvania State University: The site visit took place from October 1 through December 15, 2010. All members of the research team participated in visits with those in offices providing services to student veterans. For each interview one of the co-PIs or Faculty Associate and at least one research associate/assistant conducted the interviews or focus group. Out of the 44,034 students enrolled at Penn State's University Park campus in fall 2010, 782 students used GI Bill benefits. The following offices or service providers at the main campus University Park were interviewed:

- Senior Associate Registrar
- Assistant Director of Military Education, World Campus
- Director of Veteran Programs
- Executive Director of Division of Undergraduate Study (DUS) & Associate Director DUS
- Senior Administrative Data Analyst & Admissions Counselor for Veterans – Admissions Office
- Student Financial Office: Director of Programs and Operations, Senior Director, Director of Applications and Eligibility Services, and Assistant Director for University Scholarships
- Counseling and Psychological Services: Director, Outreach and Consultation coordinator, and Coordinator of Research and Technology
- A focus group of 3 student veterans

San Diego State University: The site visit took place on November 4-5, 2010 in conjunction with the Grantee visit. The site visit team was Donald Heller, co-PI and Rachelle Frick Cardelle,

Graduate Research Assistant. Out of the approximately 30,000 students attending SDSU, approximately 1,100 are veterans, active duty, or reservists, and 1,800 are dependents or spouses using transferable benefits. SDSU tracks some statistics on their veteran student performance, and has found that:

- The student veteran continuation rate for full time freshman (Fall 2010) was 93.0 percent
- The student veteran continuation rate for transfer students (Fall 2010) was 85.7 percent
- The university's six-year graduation rate for the Fall 2003 cohort of first time freshman student veterans was 51.7 percent
- The university's four-year graduation rate for the Fall 2003 cohort of transfer student veterans was 74.4 percent

The following offices were visited:

- The President of SDSU
- Dean of Engineering and co-PI on the NSF grant
- The Director of Career Services
- A Counselor in SDSU's counseling office
- The Veterans Center Director, and other employees in the center
- A focus group of four student veterans (conducted via phone on November 30, 2010)

Widener University: The site visit was conducted on October 12-13, 2010. The research team was composed of Robert Hendrickson co-PI, Kimberly Griffin, Faculty Associate, Claire Gilbert Graduate Research Assistant, and Ted Timmerman, Research Associate. Widener enrolls 7,022 students, of whom 74 are veterans and 14 are dependents of veterans using transferable benefits. The following offices and service providers were interviewed:

- The Dean and Assistant Dean of University College (Widener's continuing study branch)
- The Director of Student Financial Services
- The Dean of the School of Human Services and Associate Provost
- The Assistant Dean for the School of Engineering
- The Associate Provost/Dean of Student Affairs and the Associate Dean of Student Affairs
- Individuals affiliated with Widener's Academic Support Services, including: the Associate Provost for Academic Affairs; the Director of Exploratory Studies (Widener's program for undecided students); the Director of Academic Coaching and Project Repair; and the Director of the Widener University Student Counseling Center
- Individuals affiliated with Widener's One Stop Center (a comprehensive enrollment services center) including individuals affiliated with: the registrar, financial services, and the bursar
- Individuals in Widener's admissions office
- Individuals at Widener's law school associated with running their Yellow Ribbon Program
- A focus group of five student veterans currently enrolled at Widener.

Grantee Engineering Programs

Since each of the grantee sites were engaged in programs with very different foci, the site visits were organized to assess the specific goals, processes, and outcomes at each site. The PI of the NSF Grant at each institution facilitated the development of the interview schedule. The three grantee sites participating in the research were: University of Virginia, with an accelerated systems engineering master's degree program; San Diego State University, with a grant developing articulation and credit transfer strategies for student veterans seeking to transition to undergraduate engineering; and the University of San Diego, with a cohort of veteran undergraduate students pursuing a baccalaureate degree in engineering.

San Diego State University Articulation and Credit Transfer for Undergraduate Engineering Veterans: The visit was conducted on November 4, 2011. The research team consisted of Donald Heller co-PI, and Rachelle Frick Cardelle, Graduate Research Assistant. The following individuals were interviewed:

- The President of SDSU
- The Dean of Engineering
- A credit evaluator in the Admissions Office
- Staff working on SDSU and SDCC's Troops to Engineering program
- Director of Development, Construction Engineering & Troops to Engineers
- Administrator from the NSF Troops to Engineers Program at San Diego City College (partner of SDSU on the NSF grant)
- Analyst on the NSF grant
- Director for the Office of Advising and Evaluations and Enrollment Services
- A focus group of four student veterans (conducted via phone on November 30, 2010)

The University of San Diego Veteran Undergraduate Cohort Engineering Bachelor's Degree: The visit was conducted November 3, 2010. The research team was Robert Hendrickson, co-PI, and Claire Gilbert, Graduate Research Assistant. USD enrolls approximately 7,800 students, of whom 214 are either veterans or active duty military and 65 are dependents or spouses using transferable benefits. The following individuals were interviewed:

- The PI on USD's grant and the Department Chair of Electrical Engineering as well as the Director of Engineering Programs
- Associate Provost
- Staff from the registrar, financial aid, and admissions offices
- Three engineering faculty associated with the program
- The Director of the Counseling Center
- A focus group with four current student veterans in USD's engineering programs

The University of Virginia Accelerated Systems Engineering Master's Degree: The visit was conducted on October 22-23, 2010. The coursework in the program is conducted on weekends, and the weekend we visited also included an open house for prospective students. The

research team was composed of Donald Heller, co-PI, and Rachele Frick Cardelle, Graduate Research Assistant. The following individuals were interviewed:

- The Chair of the Systems and Information Engineering Department
- The Executive Director, the Program Manager, and the Veterans Coordinator for the Accelerated Master's Program
- The Associate University Registrar
- The Director of the Center for Engineering Career Development
- A focus group of three student veterans in the program

Analysis of the Site Visits

Veteran-Friendly Institutions

Information collected from the veteran-friendly institutions has been grouped to demonstrate the kinds of services and programs that exist at this type of institution and how veterans perceived the array of programs and service available to facilitate their transition and success. While each institution's services were configured in different ways, the basic services and programs offered to veterans were similar. What follows is the program and service profile of a typical veteran-friendly institution, based on the information collected in our site visits and through subsequent analysis of documents and interview/focus group transcripts, as well as our review of the literature.

Campus Veterans Offices: Four of the veteran-friendly institutions (HACC, PSU, SDCC, and SDSU) that we visited had a unit or individual specifically tasked with oversight of veteran student issues at the institution. In some cases the Office of Veteran Affairs has existed for a number of years. These offices are typically located in the student services division of the institution. For example, SDCC which has a large veteran and active duty military population, has a staff member who works in the Admissions and Records Office who works closely with admissions and enrollment, financial aid, and the registrar, largely focused on processing student benefits.

In the fall of 2010 SDSU opened a new veterans office in the central section of the campus that includes offices for veterans affairs staff as well as a lounge for veteran students. Because of the large number of military and veteran students on the campus, the local office of the federal Department of Veterans Affairs has a full-time staff member working out of SDSU's veterans office. The university also has small residential dormitory (in a former fraternity house) exclusively for veterans, and a very active veterans' student group operates out of the house.

While it does not have an office or specific student services officer for student veterans, Widener University has recently formed a committee of staff from offices and services that directly impact and serve the needs of veterans. All of these offices are actively involved in the certification and processing of veteran benefits. They also do outreach with active duty military who are contemplating discharge and the utilization of the Post-9/11 GI Bill. Widener understands the importance of having a central veteran's office, but sees the committee's work as a way to compensate. As one interviewee heavily involved with the committee explained:

There is a true awareness that we don't have a veterans office. It doesn't mean that we don't serve them. And we work very hard at serving them well. But we don't have a centralized location on campus that's sort of a one-stop shop for them. And so we thought it was important to have this sort of conversation

Penn State uses its World Campus and HACC its Virtual Campus to offer on-line courses to active duty military. Part of their strategy is to encourage these military personnel to begin their education while still on active duty, with the hope that they will enroll as full-time students after separating from the military. Widener is in the beginning stages of creating a marketing strategy aimed at returning veterans for its undergraduate college that is similar to the program at its Law School on the Delaware Campus. As one World Campus interviewee put it:

What I tell students is that you ought to start as early as you can in your military career...you should use that tuition assistance benefit that you have now because the more credits that you take while you're still active the more you're maximizing you GI Bill benefit when you get out so if I have 20 years in the service let's just say I even have 4 years in the service and I was able to get 20 credits that's got me a big chunk of the way and I'm not gonna I gonna have more of my GI Bill to us which I know can transfer to my spouse or depend children if I don't need to us it all or I can use it on graduate school. So the sooner you start the more you're maximizing your education benefit. The second reason is, particularly for us, the earlier I get them being a Penn State student choosing their course of study let's say its systems engineering whatever it is the less problem I have with that whole transfer credit issue.

These offices regularly refer undecided veterans or those contemplating a change of major to either academic advising or counseling services to ensure the veteran is moving toward a preferred career path. These services are also provided to the spouses and children of veterans or Active Duty, Reserve and National Guard military personnel and their spouses and families. These offices also promote a strong relationship between the institution, its veterans and the local office of Veteran Affairs.

The important role of the veterans offices was noted by one student veteran at HACC: "I mean, I came here, and I went to the Veterans Affairs Office. And in a week they sat me down and briefed me, told me everything I needed to do. Bam, bam, bam, got all the paperwork in line."

Recruitment: Veteran-friendly institutions use passive and active measures to recruit veterans to their campuses. Passive measures such as restructuring their websites to attract the military population help to augment the institution's public persona and add to the school's reputation. This is an important recruitment component in a population where word of mouth is a significant factor when choosing an institution. . An interviewee at Widener, when discussing the committee on veterans' work, explained:

And so one of the ah ha's was, we're doing an awful lot, we just need to find a way to centralize it on the website. We need to do more promotion of it. It wasn't that we didn't have it. It's just that we hadn't made an effort to promote it. And so that was probably, for me, one of the biggest sort of ah ha's that we had in the whole process was finding out what everybody was doing and then finding a way to better communicate it, which we're

still trying to work on.

One active method of recruitment is the use of the Department of Veterans Affairs-provided RONA (Release of Names and Addresses), which allows schools to contact veterans within their local admissions service areas. The RONA is generated by the issuance of the military discharge certificate (DD 214) and contains the name and address of recently discharged servicemembers within the designated area. Under the DVA regulations, contact with these servicemembers can only be made by mail.

Another active measure available to schools fortunate enough to be located near military installations, such as SDSU and SDCC, is face-to-face recruiting at military base education fairs. Institutions distant from military bases can build networks with local National Guard and Reserve units, and maintain relations with local VFW and other military/veteran-affiliated organizations such as the Navy League.

Regardless of strategy, a common theme in all recruitment discussions was the need to connect with the future veteran early in the process of service separation – as much as 6 to 12 months before discharge – in order to have as much time as possible for a smooth transition from military service to student status, and veteran-friendly institutions continually seek ways in which to accomplish this goal. One person at SDSU noted:

We really think that veterans don't get a lot of good information up front. Not only that, they also don't understand how they could move from the, somebody who shoots weapons off a ship to work in a biotech laboratory. That isn't clear to them. As we drill down into this we saw the marketing as being part of this.

Institutions also recognized the need to try to reach active duty military personnel who are already taking college courses. Ensuring that these personnel understand what kind of courses are required for entry into STEM majors can help them choose institutions, as well as specific courses, wisely if they take college courses while on active duty.

Admission and matriculation: Admission and enrollment at the institution involve a number of issues that are unique to veterans. For example Penn State treats all veterans as adult students with more lenient admissions requirements and does not require the SAT. It is on the admissions application that veterans identify as veterans qualifying for benefits.

Credit transfer: Using the ACE system of credit for military training and experience, each institution evaluates a veteran's military transcript to determine what military-provided courses could be applied toward the completion of a degree program at the institution. For example, transcripts for veterans at SDCC are evaluated in a central office and a digital copy of the evaluation is sent to the veteran. At SDCC, veterans typically are allowed a total of four credits, two in physical education and two in health, but students are given the option to test out of certain requirements. Penn State asks each academic unit to evaluate transcripts and determine what credits will transfer. The institution's residential programs are generally very stingy with credit transfer and typically only transfer no more than three credit hours, generally applied to physical education requirements.

Veteran students at all of our site visit institutions almost universally expressed dissatisfaction with the credit transfer situation. One might expect a community college, as an open enrollment institution, to be most lenient about accepting transfer credits. But student veterans in the focus group we conducted at HACC reported that they were offered only three credit hours for their military training and experience. Students expressed a concern that this was simply a ploy to generate more tuition revenue for the institution.

The argument for not awarding very much *academic* credit by the institutions is that these military credits tend to be in courses that are very applied and hands-on in nature, and lack the theoretical foundations necessary in courses required for most majors, particularly those in STEM disciplines. This is a contentious issue with veteran students, many of whom remembered promises made to them during their recruitment into the military. These promises often revolved around how many college credits and even degrees their military training would provide to them. As one focus group participant at HACC put it:

When I first went in [to the military]... my recruiter actually told me that I would come out with an LPN [licensed practical nurse credential], and I thought it was true. . . I'm in the nursing program. And the whole first year for me or the first semester was a complete review of what I did in the military. And it gets a little frustrating because although I'm doing great in it, and I can feel it's easy, and I have more time to do other things, it's a little frustrating and I have to backtrack.

Even if credits cannot be awarded toward the student's major, the student could still benefit if general education credits are awarded. This could also help shorten the time-to-degree by reducing the total number of credits the veteran would have to earn at the institution. In order to utilize military credits for general education requirements the academic dean or provost of the institution needs to become involved in working with specific departments and the institutions faculty senate to achieve reciprocity for the application of these credits for general education requirements.

Widener attempts to assign credits to either lower or upper division courses and where some credits will not fit they allow the student to apply them to elective coursework. Typically few if any credits came from their military transcript. The SDSU NSF grant is specifically focused on improving the transfer of military transcript credits to the SDSU engineering degree programs, with the goal of better mapping military training courses to SDSU courses. In general, SDSU has had a good amount of success in granting transfer credits to students. One interviewee explained, when discussing student veteran transfers from local community colleges:

They have students attending there who want to transfer to San Diego State, typically speaking they are transferring in as a freshman or an upper division transfer and we do make some exceptions obviously for veterans coming in with less than 60 units. And they'll call and I'll say, they'll say you know I talked to the veteran and he wants to come over there but he only has three units for his military service credit. I said well how do you come to that conclusion? I said send me the docs, I look at them, we're going to give him 40 units, depending on what they've done, what their training has been and I will tell you at the community colleges for example they all have their own rules. Now we have an executive order from the Chancellors office that gives us some direction what to do with military training. This last, in 2009 they came up with some really good guidelines

incorporating system wide to look at cleft exams and we've always been really veteran friendly and we do a lot of stuff whether it's the Dante test of Cleft exams, anything we can do to work with veterans to say hey go take this take and clear some of your general education requirements. If you pass this we'll work with them on that but you're not going to find, I think a lot of it is bureaucracy.

Increasing the number of credits student veterans bring into the university can help to reduce time-to-degree rates. This is a step in the right direction and institutions need to do more to address this issue.

Financial aid and veterans benefits: Typically the Bursars/Business office works closely with the Veterans Office and Financial Aid Office to process students' GI Bill benefits For example, to meet the full cost of tuition at Widener University, the institution provides students in the Yellow Ribbon Program with a financial aid package that includes scholarships to supplement the GI Bill.. In explaining their strategy about preventing student veteran indebtedness at Widener, a staff member offered the following example:

If I may, we have one student, in particular, that stands out, only because we've been dealing with him since the beginning of the semester. That currently is approved for like seventy percent of the Chapter 33 benefit, but he's following up on that to hopefully get one hundred percent. But in the meantime, the student has been awarded a Presidential scholarship, and all that. So while we're waiting to hear and get the actual payment from the Veterans Administration, we're keeping in contact with this student to review because he doesn't want to take out any loan funds if he doesn't have to, and all that. So we do stay in constant communication. He's just one example of trying to help them get through it without any indebtedness.

Because of the low tuition at both SDCC (\$26.00/credit hour in 2010-2011) and HACC (\$129.50/credit hour in 2010-2011), these institutions have not put together a financial aid package for veteran students beyond what is available to them through their GI Bill benefits.

In the past the VA has been slow in processing students' GI Bill benefit package and transferring the funds to the institution. To accommodate students while they wait to receive their benefits so that they can enroll in courses, most institutions we visited either provide no-interest loans and waive the tuition payment deadlines for veterans. For example, HACC has issued veterans no interest loans but will require them to a pay a nominal sum until the GI Bill benefits are received. One factor that makes dealing with student veteran financing easier for financial aid offices is the presence of a strong veteran's office, which was explicitly cited by a financial aid officer at HACC:

I think that the thing about HACC is that we have such a strong Veterans Office here, with Adam's staff and the staff at the campuses, that really, we probably deal with veterans a little bit less than maybe at some other colleges, because of that strong office. And also the Veterans office here reports to Admissions. And I know in a lot of colleges, VFA is under the leadership of Financial Aid, but that's not the case here, and it seems to work out well here, you know, that kind of set-up.

Widener University establishes an account that veterans can draw from until their benefits are received.

All of the institutions reported that the processing of the Post-9/11 GI Bill benefits was much improved in the fall of the 2010-2011 academic year, the second year of the program, as compared to the prior year when by all reports, the VA was swamped by the volume of applications. However, we recommend that institutions consider developing mechanisms to mitigate student stress surrounding the processing of benefits, particularly when this problem is most critical as the student is making a transition from a military career to enrollment as a student with all of the adjustments that entails. Most of the veterans affairs offices on the campus that process the GI Bill benefits have very good knowledge of the program, and can determine with great certainty whether the student veteran qualifies. Therefore, there appears to be little institutional risk in lifting the requirements for upfront payment of tuition by veterans, with the understanding that their GI Bill benefits when received will cover their tuition costs.

Preparation for academic work: in some ways, veteran students reported to us that they were more prepared for academic work than the typical undergraduate. They reported that their military experience instilled in them a strong sense of discipline, maturity, goals, and direction. One SDSU student veteran explained:

I guess I just didn't know what to expect when I started school and I found it compared to the military like 100 times easier. It still you are not, it is not like an atmosphere that I feel comfortable in because I was never that great at school before. I was almost a high school dropout so academics has never been my thing but I keep making myself do it so I guess it is definitely not what you do in the military. As far as transitioning straight from the military to the classroom, it is a transition it is not like you walk in one day and everything is normal. It takes a long time to get back into the civilian world if you spent and decent amount of time in the military.

Another student at SDSU concurred with this assessment, noting:

I think that it is a little bit easier because you have already been out into the real world. You have to take care of responsibilities better than the average eighteen year old because you have already worked a job and worked with other people. You have already taken classes, you have families to take care of, I think that you are more responsible than an eighteen year old.

However, there were some areas in which student veterans experienced challenges. For example, some were still trying to determine the best career direction and as well as understanding how to obtain needed remediation in mathematics and writing skills. Others acknowledged the lack of preparation in the theoretical aspects of the courses in which they were enrolled. Some students expressed the need for study skills training. Students with TBI and PTSD needed assistance in other ways including the ability to concentrate and focus.

Advising and course sequencing: Selection of a major is a critical issue and presented challenges for some student veterans. SDSU noted that a number of veterans come to the institution thinking they will major in criminal justice in order to compete for positions in federal agencies. However, through advising and counseling they find that their interests lay elsewhere.

Others were less clear regarding choice of major. Among institutions in our sample, the most frequently sought majors by veterans were nursing, criminal justice, engineering, and business.

All of the institutions provided students with advising services to assist them in choosing a major. SDCC's is the second point of contact for students who have matriculated at the institution. The office assesses students background in math and English, provides orientation to the institution, career exploration, and educational planning. Students are offered an orientation and one on one advising as soon as they enter the institution. One counseling employee at SDCC explained:

So the way that it is structure is we have a power point that demonstrates the essentials and we go into the registration process because for a lot of students that is a challenge. They are not comfortable with computers and that is the only way that they can register now. So we do the step by step through it on the PowerPoint and then at the end of the orientation one counsel is conducting the orientation and at the end we will bring in extra counselors and for the next hour they will see students individually to do a one semester ed plan. Usually that is based on what they are seeing that their major is we do not have access to a computer in those orientations an offer times we will end up bring the Veteran, and we will end up bringing them into our offices because we know that they need something more precise.

For veterans, counselors go to the office where veterans' benefits are processed to meet with students, as well as hold office hours at the military installations in the area.

SDCC also was addressing course sequencing and the times courses are offered. For example they began morning classes at 6:50 and offered classes on Saturdays and near (and sometimes on) military bases, which was helpful for both active duty military and those in the process of transitioning to veteran status. They also allowed students to take courses from the San Diego Community College campus closest to them.

Academic support and study skills: All of the institutions provided academic and study skills support and subject matter tutoring. SDCC offered short courses to increase a student's knowledge to handle courses at the community college/ SDCC also has an Academic Success Center to provide academic support services at one location. SDCC and SDSU had a collaborative arrangement to facilitate the smooth transfer of students from the community college to a baccalaureate degree program. The Director of Academic Support services at Widener University noted that several veterans who had initially used the tutoring facilities were eventually hired as tutors. She found that their military training, maturity, and discipline made them very effective tutors.

None of the academic support offices could provide us veterans' usage rates because there were no intake forms which collected this information and veterans typically will not self-identify. Some offices were aware that veterans were using their services in part because they worked with individual students who disclosed their veteran status. While institutional support was available, many institutional representatives and veterans themselves noted student veterans often relied on informal peer support networks for academic support, advising about majors, advice about navigating the bureaucracy of both the VA and the university, as well as other issues.

Counseling services and referral to VA: Because student veterans often do not identify when seeking counseling services, these offices could not provide information on the number of veterans using the service but noted that in the course of the counseling relationship veteran status would emerge where it was relevant to the counseling issue at hand. There was a sense that veterans like to think of themselves as self-sufficient, and thus may not immediately identify as veterans when seeking help.

All of the veteran friendly institutions provided counseling and psychological services to all students including veterans. Some of the smaller institutions worked closely with the local Veterans Administration office to address the kind of issues that veterans present. For example HACC does not provide long-term counseling services, but refers veterans to the local VA office for long term issues resulting from PTSD or TBI. HACC has implemented an early warning system in order to help with this issue. One CAPS employee at the institution stated:

...if somebody has a concern about a particular student, they can fill out a behavior reporting form, which then will go to what we call the behavior intervention team. Which I'm on, our Dean of Student Services and Academic ... the executive dean of campus for academics, and a Security officer. So then they'll determine where it goes. Is it on the academic side, or is it on the Student Services side? But what happens is, as each person puts in a concern about a student. It's looked at on the campus level, but then also on the college level, because some of our students do cross-campus. So if there have been, say three reports, four reports on one student, the priors will come up, and we'll be able to see, well this is more than just one person being concerned about this. We're seeing this behavior in other arenas. It's supposed to be an early intervention , early warning system..

Some of the larger institutions do more long term counseling. For example, Penn State's Counseling and Psychological Services (CAPS) estimates that between 30 to 50 percent of the veterans have been affected in some way by their military experience. Because of the increasing enrollment of veterans in the online World Campus, Penn State is now exploring ways to provide psychological and counseling services to World Campus student veterans. One World Campus employee described Penn State's progress on the topic:

We know that other schools have solved this problem and so that's something that's on our plate right now is the how can we provide those same kind of services to our distance learners that need psychological counseling and do it at a distance. What we've been doing is simply find someone in their local community and making a referral but we don't feel that that's good enough and we're going to try to you know if they're veteran they also have access to whole VA system and so again we're making those referrals but we would like to have a better think in place like we do for our resident students for psychological services.

All of the institutions reported that they worked closely with the local Veterans Administration offices to address the counseling and psychological needs of student veterans.

Disability services: Each of the institutions has an Office for Disability Services designed to meet the needs of all students with a disability. Specific programs and procedures have often been designed to meet the disability needs of student veterans. Each of these units worked closely with the Veterans Administration to meet the accommodation needs of student veterans.

Campus and classroom climate: Student veterans reported that the climate at all of the institutions was generally welcoming. However, student veterans often did not identify their veteran status in the classroom, as they did not wish to have classroom discussions bring them back to their battlefield experiences.

Students also noted a certain degree of caution in relaying their veteran experience when relevant to classroom discussion until they got to know the instructor. However, they also noted that most faculty were supportive, with some offering assistance and in some cases taking on a mentoring role when they found out the student was a veteran.

While experiences with faculty were described as largely positive, student veterans regularly exhibited a great deal of frustration with the immaturity of their fellow undergraduate students. They noted traditional students seemed to be focused on drinking, parties, and other superficial issues, feeling they had little in common with these traditional students. They found it offensive when student would ask if they had killed anyone. The result of this frustration was that their friends tended to be other veterans or older students in their classes. One veteran student at Penn State explained:

You do kind of feel a little strange being a little bit older than everybody else and it is kind of hard sometimes to find a common medium to talk about other than what ever the topic of why you are there. I felt weird in some of them it was all eighteen, nineteen year old kids and then the guy with the bald head in the back of the room. I didn't really feel comfortable in the other groups. I went to the Power lifting one time and the rifle team one team and I didn't feel, it is not that I didn't feel welcome everyone was very nice it was that I was not overly comfortable and I didn't feel that I had a common ground to meet them on. I felt like I was a little too old maybe.

Career placement services: All of the institutions provided career planning and placement services for graduating students, including veterans. In some fields a student's status as a veteran made student them particularly competitive in the job market.

Graduation rates: Generally the veteran friendly institutions do not regularly monitor the retention of veterans and the 4- and 6-year graduation rates of the veteran population. Veteran status is only used for financial aid purposes and is not part of the academic and enrollment data at these institutions. This is one area that NSF may want grantee institutions to keep graduation rate records, not only for veterans enrolled in engineering, but also the general student veteran population at the institution.

Grantee Engineering Programs

The University of San Diego

Grant focus: University of San Diego began its NSF grant on September 15, 2009, focused on providing undergraduate engineering opportunities to veterans on the post-9/11 GI Bill:

This engineering education award to the University of San Diego will develop an innovative model for undergraduate engineering that is customized to the needs and strength of veterans. A particular emphasis will be on the success of women veterans.

The results will also be presented on the web, at technical conferences and published in professional journals. Also the project will hold a one day workshop for the 15 universities in Southern California with engineering programs to discuss the results, to share best practices and to further promote and develop customized engineering education opportunities for veterans. The project is expected to assist veterans' transition to civilian life and to enhance the number of students who complete engineering degrees and are ready to fill engineering jobs or start new high tech businesses (USD Grant Abstract, 2009).

Currently USD has 200 student veterans enrolled; seven are enrolled through the Engineering NSF grant.

Analysis

General USD student veteran programs: USD does not have an office for student veterans but as a result of the NSF grant the Associate Provost has formed a committee to coordinate student veteran services at the university. Here are some common policies and practices that impact student veterans who apply and matriculate at USD:

- USD has an admissions counselor who functions specifically as a military liaison.
- All veteran applicants are treated as transfer students. This special admissions standard ensures a higher rate of acceptance as transfers to USD are reviewed differently than first-time applicants .
- Coincident with USD's veteran grant, USD admissions decided to do more veteran-specific recruiting. With the assistance of researchers on the grant, the admissions office developed a targeted plan, planning targeted visits to encourage veteran applications and matriculation.
- USD participates in the Yellow Ribbon Program, which, in conjunction with GI Bill benefits, brings the tuition for veteran students down to \$8,285 (compared to normal USD tuition of \$36,950).
- USD applied for a grant to create a Veterans Office on campus to provide more support to student veterans. Although USD did not receive the grant, its administration is working to create linkages among USD's administrative offices that deal with veterans in lieu of creating a Veterans Office.
- USD has developed a veteran support team composed of administrators, faculty, and staff from across the university to discuss how to make USD an excellent environment for student veterans.
- USD has one of the largest NROTC programs in the nation.
- USD's engineering programs are also working to develop web-based materials aimed at helping students to develop their engineering math skills. This product would benefit both student veterans considering an engineering program and a general student audience.
- In preparation for the influx of veteran students into engineering programs, the Counseling Center organized workshops to help prepare engineering faculty and counseling personnel to assist and serve veteran students. The counseling center also developed veteran-specific student assistance materials.
- USD hosted a reception in honor of veteran students in September, 2010

The engineering program: The original grant was a planning grant to develop a strategy to recruit and retain student veterans through graduation in the electrical engineering program at USD. In 2010 – 2011 the grant enrolled seven student veterans in the electrical engineering program.

Recruitment: USD employs two veterans in their admissions office specifically designated for the recruitment of active duty military personnel and veterans. Dr. Kathleen Kramer, PI on the NSF grant, worked closely with these admissions officers to develop a recruitment brochure and a presentation to be taken to both military installations and community colleges in the. Dr. Kramer also developed relationships with academic advisors at other colleges, and student veterans with military background in technical fields were referred to her as potential engineering majors.

These are two example of the level of collaboration across the campus that assisted in the success of the NSF grant at USD, and this collaboration has been warmly embraced by parties outside of engineering. For example, one admissions counselor described his reaction to working with the NSF program:

I was really excited when they came to our office and met with my director and I...to talk about this grant and when they mentioned that part of the money was gonna be for actual recruitment I was really excited about that because the possibilities were endless I mean I could have gone pretty much anywhere. I put the word out to all the needy college offices, all the army bases that I kind of explained what we were doing that we were looking specifically at engineers or active duty members or those that have recently gotten out if they were interested in engineering let them know that USD has a possibility and I'd like to talk to them about that. ..Dr. Kramer was at a conference and she met with the command master chief of [inaudible] master in San Diego and she put me in touch with him and he invited me to go to Great Lakes to speak to two divisions at boot camp they were sponsoring and I went there and it was one of the best experiences of my life. I had their undivided attention as I'm sure you probably know. And a full classroom where I showed them the video the engineering video. I talked about how we are a military friendly and kind of geared towards engineering. But I was there answering their questions just about education in general, telling them my story. How I came about coming to USD as a student and just how I went along the process of going to college in general.

I went to their graduation. I kind of saw them through for three days. I eat breakfast, lunch, dinner with them got to know them and I know [inaudible] is in the process of trying to keep track of those that they did sponsor or those that spoke to me and see what happens see if they eventually do decide to get out and go to school and USD be one of those possibilities. It's a great experience. It was incredibly neat just being on that side of things. Last time I was there all I can remember was the person in front of me. Marching around and but it was a phenomenal experience and it I love selling USD. I love talking about USD and I especially love talking about how we are military friendly. And I like talking about how when I came here as a veteran I felt incredibly welcome. And I think it's even more so now.

Funding for veterans: USD has a one-stop office dealing with financial aid, the bursar, and the registrar, so that services provided by these offices are at one location. Due to frequent delays in the processing of GI benefits USD has set up temporary accounts for student veterans. These accounts allow students to maintain their enrollment until benefits payments have been received. USD has had challenges setting up its Yellow Ribbon Program due to repeated changes in federal regulations and California's public school tuition structure. Public institutions in California technically charge tuition only to students from outside the state; the amount that resident students pay is considered "fees." Since the Post-9/11 GI Bill only covers tuition payments, veteran students were not initially eligible for payments in California. However, this issue has since been resolved between the VA and the state of California. .

In general, the aim at USD has been to make the process as seamless as possible for students. One interviewee in financial aid explained:

...on the back end we work everything out and on the front end for the students they were disbursed the financial aid that they that we thought at that moment that their gonna get and then it changed as it changes you know so the university kind of fronted in that sense so I don't think students saw anything and if they did they went to Marvin and then Marvin you know when to student accounts or to financial aid or to whoever to manage it

Credit transfer and articulation: USD accepts on average about 8 credits from the student veterans military transcript, which staff in admissions felt was fewer credits than was sometimes merited, even knowing that other institutions grant fewer credits. One admissions counselor noted:

we do up to a certain point that's you know we are a military friendly institution that's one thing that I wish would change because right now we only roughly will take about 8 units of military credit and when we say that we do evaluate all veterans as transfers it's not necessarily policy. We are flexible on that but the majority of veterans are coming in after being out of high school for at least five six seven years. They haven't taken any college courses but they do have that military course work and I think it might be we're a little bit more flexible with transfer students. So that's one of the reasons why we're able to view them as transfers.

Students expressed frustration with the small number of credits that transferred and the remedial work required and the impact on their GI Bill benefits allocation.

Credit transfer is particularly troublesome for engineering because veterans can come in with training and course experience that sound very technical, but is not actually applicable to the major. For example, students might have taken hydraulic engineering and know how to actually fix things but will not have had the theory behind it and therefore cannot receive credit for their experience. Dr. Kramer was working with other schools within the University to have some of these military credits substitute for general education and elective requirements. One faculty member stated:

The one thing that we see with students, it is not just Veteran's may have taken a lot of classes at community colleges but they have not taken things that are going to help them

in engineering. I had another student who is not in engineering anymore a year or so ago who had been here for a semester left to go to the military and came back. He had a whole laundry list of things and no calculus and no science. SO for us he is still a freshman he has to follow along the curriculum. Engineering has a very rigid curriculum with a lot of prerequisites so if people are not ready to start in calculus one here or really ideally save you GI Benefits for the really expensive stuff here that you can't get at the community college. Take the pre-calculus and maybe even calculus one at the community college.

Dr. Kramer was working with other schools within the University to have some of these military credits substitute for general education and elective requirements. Like at the veteran-friendly institutions, senior administrators such as in the office of the provost need to be involved in achieving the acceptance of military transfer credits to meet some of the general education requirements at USD.

Preparation for the engineering curriculum: One of the issues is that courses taken at the community college or online do not prepare veteran students for the theoretical underpinnings and rigor of an engineering curriculum. One example is in the area of mathematics where students have spent 2 years taking math coursework without being exposed to calculus. Even though students arrive with the equivalent of sophomore status in their general education requirements, as an engineering student they are at the beginning freshman level. Students are also underprepared in the area of physics.

These observations raised the question of whether engineering curricula need to be revised to take advantage of the prior training and experiences of veteran students, rather than expecting veterans to fit into existing curricular models. This points out the need to do more effective advising of students interested in engineering as a major particularly at the community college and with active duty military who typically enroll in coursework that will be used to pursue a degree when they separate from the military. One faculty member explained:

The problem there is I think is the math and science requirement. They might have taken Hydraulic Engineering say that term and say that they know that they can fix things but that wasn't discussed that type of training was not discussed it was applied. It is that kind of thing. For him it was wow, you know I have taken this many credits and I am only good for six credits. So from an advisors stand point it takes time to go through all this paper but also it is important looking at so kind of information or advising I would say where they could ask questions or as a student goal as a Veteran goal as they are going through the process maybe they want to at least emphasis that math and science and these other things that you want to think about.

Academic support services: USD provides a full complement of academic support such as writing, study skills, tutoring in various disciplines. Student veterans have utilized these services either as a referral from their adviser or at their own initiative. Student veterans typically do not self-identify when seeking these services.

Counseling: Student veterans who seek assistance in the counseling office may or may not identify as a veteran. Based on the returning veterans who have utilized the counseling services,

the following problems were identified as being present within the community: difficulty balancing home and school life, irritability and anger, especially related to perceived unfair treatment, trouble finding a niche on campus and/or feeling disconnected from other students. A sense of chaos caused by the difference between college and the military where students must face having multiple “commanding officers” who all ask them to do different things. These problems are similar to those outlined in the literature on student veterans.

Disability services: USD services student with disabilities and has worked closely with the VA in the area to implement programs that accommodate student veterans with disabilities.

Sustainability: The Associate Provost indicated that USD hoped to increase its student veteran population to 300 to 350 students. The changes brought about by the award of this NSF grant have been institutionalized in order to attract veterans to USD and USD's engineering program. As a result of the NSF grant they have formed a committee to coordinate services to meet the needs of student veterans and facilitate the enrollment of student veterans at USD. The university is investigating ways to developing funding packages combining scholarships with GI Bill benefits to make matriculation at USD more attractive to veterans. As the Associate Provost noted, veterans are truly an ongoing priority for the institution, and the school has attempted to ensure their ability to attend:

We really do believe in supporting Veterans and making it possible for them to attend here. Without that having to pay the full \$36,000 it would be very difficult so our Veterans population in the last two years has nearly tripled because of the Yellow Ribbon Program and making it affordable.

San Diego State University

Grant focus: San Diego State University began its NSF grant on October 1, 2009. The program is focused on developing articulation and credit transfer strategies for veteran students seeking to transition into undergraduate engineering programs:

This engineering education award to San Diego State University will develop innovative articulation and credit transfer methods among community colleges, military training and four year colleges. This will assist in streamlining the transition of veteran students from the military to completion of undergraduate degrees in engineering. The engineering degree pathways will be customized to the needs and strengths of veterans. The results will be disseminated widely and also will be presented on the web, at technical conferences and published in professional journals. The project is expected to assist veterans' transition to civilian life and to enhance the number of students who complete engineering degrees and are ready to fill engineering jobs or start new high tech businesses (SDSU Grant Abstract, 2009).

SDSU has also received a subsequent grant, begun on October 1, 2010 to develop partnerships with community colleges and a model for moving student veterans successfully from community colleges to four-year schools:

This engineering education research project seeks to establish a support program for student veterans at San Diego State University in partnership with two local community colleges. A key element of the SERVICE project is to define a clear pathway for veterans to complete engineering degrees. The program seeks to engage industrial partners to offer internships to veterans throughout their college careers. By offering math courses to service members before they arrive at colleges, the project seeks to minimize some of the major hurdles to veterans' success in college.

The broader significance and importance of this project will be to develop a model for broad participation of veterans that recruits and retains them in college and transitions them to engineering careers. Should the project demonstrate the coalition of partner schools is able to successfully transition student veterans to graduation via the effective use of internship programs, this pilot will serve as a model that can be readily implemented by other university - community college partnerships (SDSU Grant Abstract, 2010).

Analysis

The analysis of the grant will focus on the military transcript credit transfer project. For general information about SDSU as a veteran-friendly institution see the section above.

Credit transfer and articulation: Credit transfer and articulation was one of the most discussed issues in our interviews at SDSU due to their NSF grant focus on the topic. Interviewees noted several important factors to consider with relation to this topic:

- Processing veterans' credits properly is important to avoid making them do redundant work, so SDSU is highly concerned with understanding the content of their previous training, what they learned in service, and what content they are missing coming into school
- Veterans come to SDSU having consistently been told by the military that all their work would count for college credit. In practice, however, most credits that transfer in are solely for physical education, often because of a lack of theoretical underpinnings in the military coursework.
- SDSU administrators have noticed that some student veterans select different majors to avoid taking courses that contain information they already know from their military experience.
- While there are regulations and guidelines from ACE regarding the number of credits which should be awarded for various courses and military experiences, the central administrative offices at SDSU cannot decide what is transferable because the faculty have to get on board. In addition, SDSU would like to have the entire California State University system agree on articulation and credit transfer guidelines for veterans. As the veteran's center director noted:

this type of thing has to really come from the top. The school can't really decide on their own what is transferable or not. We have the regs and the guidelines... this is going to take a long time and yeah because it moves slow. You got to work then with faculty. And what they agree would be acceptable. And I think you

know people want it to happen but because of all the different groups it's going to move a little slow but there's been progress already.

- Employees felt that it would be highly beneficial to have staff who could work directly with local community colleges to develop pathways and articulation agreements to facilitate veterans' transitions from community colleges to four-year schools.
- Employees also thought having a dedicated credit evaluator for veteran students would be helpful.
- SDSU makes a sincere effort to grant general education credit for military training and experience and encourages faculty to grant in-major credit where possible.

Specifically related to their grant work, SDSU has found that:

- The Marine Corps, the branch of the military from which many of the SDSU student veterans originate because of its large presence in the San Diego area, uses different words to describe engineering than the words professors and universities use. This required the development of crosswalks for terminology.
- Each unit of military training does not usually have an explicit connection to university coursework. One interviewee working on the grant noted:

I had to develop sort of a Rosetta Stone. This idea about a lack of self-containment is sort of an issue. In each given unit of military training does not generally have an explicit relationship to a contained university course work.
- The rigor of military training and coursework is unclear, and such courses are taught by active duty servicemembers, who are typically not trained teachers.
- When given a long list of courses that might transfer from the military, professors did not know how to interpret it without more context
 - This required researchers to look at military professions and occupational specialty codes to develop an idea of the sequence of training courses to determine prerequisites and rigor. This work revealed the following:
 - Military training plans are similar to how university degrees are structured; they contain a sequence of requirements that must be fulfilled in order to achieve promotion.
 - Instead of exams, military training and coursework involves evaluation plans that contain information on how servicemembers are evaluated, evaluation methods, criteria for success and failure, etc.
 - These trainings involve military-specific field manuals and technical documents, which are similar to textbooks
- The content conveyed in military trainings and in SDSU engineering courses often appear to be similar, but the pedagogical approaches are very different. Regardless, the overlap and similarity in programs should create opportunities to shorten the time to degree for veteran students in many cases. One grantee explained:

The spell out how they're going to evaluate it, what methods they're going to use, what are success, what are failures and then they assign field manuals and technical names. They are the same thing as textbooks, roughly. Here's another example, concrete masonry. This is dealt with combat engineering and also engineering assistant and we teach this sort of thing in our courses here at SDSU. Here is an example, on the left is something from the field manual, a designation,

and also on the right is a picture from our textbook produced by one of our faculty members here. It's the same picture roughly. Exactly the same concept is being conveyed so there definitely the similarities but there's also some very different approaches. On the right our SDSU textbook shows basically the whole pedagogical approach and the purpose of the training. They're showing that they're modeling concrete structures on the basis on how they are going to break and you design them to prevent them from breaking and we have all sorts of exercises for you to take a look at and establish designs of structures whereas militarily they have a lot of fixed things they want to do because they know they work. They're not particularly interested in improvising things on the fly.

Now here's a diagram in the military manual, it's completely absent from the academic text. And this one talks about how quickly the strength comes to the concrete structure. It's something that is sort of unnecessary in the civilian world. The building's ready when it's ready and it's not necessarily a mission urgency to get it done. These things are spelled out in contracts you know because of lawyers all sorts of safety time. So this is a different approach because this sort of data might dictate that you don't engage in this sort of project if it's not going to happen fast enough. It's a really weird way to look at things in my opinion but that's ok.

- Articulation could also be used to see if military service could count toward the lab portion of engineering degrees.
- Community colleges have a much harder time granting general education or other credit for veterans, possibly due to bureaucratic constraints or because they are concerned that four-year institutions will not articulate credits they grant for military training and experience. (Note: most of the student veterans at SDSU come from the community college system).
- SDSU has found two primary biases with ACE guidelines:
 - ACE prefers to structure articulation in terms of complete college courses, which means there are few recommendations for upper division course credits.
 - ACE has few engineering courses set up for articulation.
- Some military branches are easier to work with than others to get information on these training programs – the Marines have been the easiest, the Army has been extremely difficult, and the Navy tends to outsource information on educational activities to consultants (though they are concerned with learning outcomes).

Conclusion: As part of its grant, SDSU has found 980 potential course articulations thus far, and has developed an even greater partnership with SDCC regarding transfer credit and articulation.

University of Virginia

Grant focus: UVA's grant is focused on creating an accelerated master's program in systems engineering for veteran students. Specifically:

This engineering education award to the University of Virginia will develop an innovative model for an accelerated master's degree in systems engineering that is customized to the needs and strengths of veterans. A particular emphasis will be including research experiences and industrial internships within the degree program. The results will also be presented on the web, at technical conferences and published in professional journals. The project is expected to assist the transition of veterans to civilian life and to enhance the number of students who complete engineering degrees and are ready to fill engineering jobs or start new high tech businesses (UVA grant abstract).

The UVA grant is designed to build on the university's existing Accelerated Master's Degree Program in Systems Engineering, which is designed largely for working professionals and is a 12-month program beginning in May each year. The program meets on the UVA campus for a week in May at the beginning, a week at the end in the following April, and every other weekend (Friday and Saturday) in between. Students also work between sessions, often in groups, using electronic media. Most of the students have at least a portion of their tuition (\$35,000 for the 2010-2011 academic year) paid by their employers. The Department of Systems and Information Engineering is hoping to attract enough military veterans to have a cohort in the program just for them, based on the large military and veteran presence in the metropolitan Washington, DC area and in the Hampton Roads (Norfolk), VA area.

Analysis

UVA's goal for its NSF grant is to adapt its Accelerated Master's Program in Systems Engineering (AMP) to meet the needs of military veterans, which it is calling AMP-V. This program would build on the existing AMP program. In the 2010-11 the program enrolled a cohort of 32 students, two of whom were veterans using post-9/11 benefits to fund a portion of their tuition. The program established a goal of enrolling 10 – 12 veterans in the 2011-12 cohort. The AMP program requires students to have a fair amount of technical college coursework prior to enrollment, including two semesters of calculus, a calculus-based probability course, linear algebra, and courses or experience in computer programming. The AMP staff assist potential students in identifying appropriate courses to complete for additional preparation or remediation in any of these courses, however, if they are lacking in one or more of them.

Recruitment and marketing: A large focus of UVA's efforts in developing the AMP-V program was on the recruitment of veterans, most of whom were expected to come from the metropolitan Washington, DC area and the Hampton Road (Norfolk), VA area. As noted above, there is a large military presence in this region, anchored by the Pentagon, military bases, as well as military contractors, many of whom employ a good number of veterans of the armed forces. The AMP program defines its recruiting area as roughly a 2-3 hour driving radius of Charlottesville. The existing AMP program is focused on and structured to accommodate the needs of people working full-time, and the AMP-V program was similarly designed to focus on full-time workers, but with tailoring to address the needs and interests of veterans. Outreach efforts were designed to complement the recruitment conducted by the existing AMP program.

As part of its grant, in the early fall of 2010 UVA hired a part-time Veterans Outreach Coordinator for the AMP program to target this population of students. This position

coordinated visits targeting individuals still on active duty in the military but close to separating, as well as those who were already veterans. During the 2010-11 academic year, for example, recruiting visits were scheduled to:

- Henderson Hall-Ft. Meyer, VA
- Quantico, VA
- Ft. Lee, VA
- Ft. Belvoir, VA
- Ft. Meade, MD
- Ft. Eustis, VA
- Aberdeen Proving Ground, MD
- Norfolk Naval Air Station, VA
- Walter Reed Army Medical Center, DC

Recruitment efforts included attending educational affairs held at some of these sites, as well as meeting with the educational coordinators at each installation. The AMP staff were also coordinating with both the U.S. Naval Academy and U.S. Military Academy to help market the AMP-V program to their alumni. Staff visited the Army, Navy, and Air Force ROTC detachments at UVa as well as the Army ROTC detachment at Virginia Military Institute to help market the AMP-V program to their alumni. Staff communicated with the Virginia Tech Army ROTC detachment and George Mason University about the AMP-V program. In addition, they visited the recruiting offices of the Army, Navy, and Air Force in Charlottesville and the Army Reserve Center in Charlottesville. Staff also attended professional meetings, such as the annual conference of the American Society of Naval Engineers. The AMP program also placed advertisements in military newspapers and magazines.

As the AMP Executive Director described their recruiting efforts, “We’re selling retail.” The AMP staff know that the Systems Engineering Master’s Program is fairly specialized, and thus, most of their recruiting success has been in reaching people one-on-one, rather than trying to reach large numbers of individuals through things like “blast” emails or widespread marketing. They often relied on word-of-mouth contacts, such as through the education coordinators on military bases as well as through other contacts they had made. They felt that the Open Houses they offered roughly once a semester on campus, as well as off-campus information sessions, were effective in recruiting individuals who had shown initial interest in the program. One of the program managers explained:

I get some people who are very interested but they’re not quite to the right time period to do it. I get other people who haven’t really thought about engineering. They see my beautiful poster and come over and talk. They may need to take some math courses in preparation so I give them information about about the program and what they would need to do to prepare themselves to be considered for admission and I also stress to them that we will work with them. We’re a very hands on program and very personal so we work with people all the time to guide them into what they need to do to get ready for the program so that they can be successful in the program

The AMP staff also acknowledged the importance of reaching potential students who not only had the necessary coursework, but enjoyed using math in their work. Again, the Veterans Outreach Coordinator said:

The idea is to find those guys because math and science to a lot of people is like doing a crossword puzzle to others. . . .those are the guys that are the fire direction officers, or even the kids who are the fire direction centers for artillery batteries or the gunnery officers on a ship – a lot of that is math and science-related and. . . this will appeal to them.

Meeting the needs of veterans: The AMP staff did not believe that their initial efforts would allow them to recruit a group of veterans large enough to justify having a separate cohort in the AMP-V program. Thus, their target of enrolling 10-12 veterans in the 2011-12 academic year would be accomplished by enrolling the veterans into the existing AMP program, but tailoring certain aspects of it to the unique needs and interests they may have.

For example, because many of their outreach efforts were targeted at veterans who were newly separated from active duty service, the AMP staff recognized many students would not yet have full-time jobs. This was in contrast to the norm for the existing AMP students, the great majority of whom were working full-time. Thus, the AMP staff members were looking at working with the veterans to identify internships for them to engage in while enrolled, so that they could gain some non-military work experience to include on their resumes and enhance their opportunities as they searched for their first post-military jobs.

Another area of customization that was anticipated for veterans was in the elective courses in the AMP program. While all AMP students take the same core of four 3-credit courses, the remainder of the 33 credit hours is made up of electives. Because it was expected that many of the veterans would be interested in fields such as national security or cyber security, the AMP staff was exploring elective courses in these areas that could be offered. In addition, one of the four core courses is a capstone project conducted at the end of the year-long program. This capstone could easily be tailored to the interests of veterans.

The AMP staff also recognized that some veterans may need more refresher or remedial coursework to prepare themselves for the AMP program than would non-veteran students. For veterans, the time since they had had calculus in the classroom may have been longer than for non-veterans, particularly if they were retiring from the military with 20 years of service, for example. So the AMP staff members ensured that veterans were aware of the course offerings that were available to help them prepare for the program.

Accomplishments: The AMP-V program enrolled 13 veterans – 11 who have been separated from active duty – and two active duty military personnel in its 2011-12 cohort, which started its studies in May 2011. Thus, the program reached its goal. However, staff were very clear that success for the program could not be measured by enrollments alone. The Executive Director observed:

There are two aspects to it. One is obviously getting a number of veterans into a pipeline but awarding the degree is not success. Success is veterans who come through the program who were not previously employed in the kind of positions they were seeking

who find successful employment and a year after they graduate are active and doing well in a career and report satisfaction of having gone through the program and found a job that they like. I think anything less than seeing them transition into employment opportunities is not success.

Evaluation Design

Introduction

The evaluation was developed to allow grantees in the NSF Veterans' Education in Science and Engineering Initiative to assess both the quality of the experience within their programs and their ultimate influence on student veterans. In terms of outcomes, the evaluation particularly draws attention to assessing the extent to which the funded program increases access to and performance within engineering programs, facilitates a smooth transition into higher education and engineering programs, and promotes progress to degree completion and entry into the field of engineering.³

It was also important to respect the individuality and uniqueness of the various NSF Veterans' Education in Science and Engineering Initiative programs in the development of this evaluation. Questions and areas of assessment were developed broadly; however, it is not expected that every program would or should be able to assess all areas of the evaluation. Rather, each Principal Investigator and evaluator should decide which areas of the evaluation align with the goals of their individual program, and choose areas to address in their individual evaluations accordingly.

Development of Evaluation Plan

The evaluation plan was developed through a multi-staged process, much of which is described throughout this report. The overarching goals and individual components of the evaluation are based upon: site visits at Veteran-friendly institutions (San Diego State University, Pennsylvania State University, Widener University, San Diego City College, and Harrisburg Community College); site visits to early grantees participating in the Veterans' Education in Science and Engineering Initiative programs (San Diego State University, University of San Diego, and University of Virginia); a review of the literature on veteran students' needs and experiences; and the professional expertise of the Pennsylvania State University research team. The early grantee programs were also asked to submit their evaluation plans included in their grant proposals for preliminary review and guidance in the development of a plan that could be used by a diverse range of programmatic initiatives.

After identifying themes and trends emerging from the research literature, as well as the interviews and focus groups conducted during the site visits and documents collected, a general list of questions to which funded programs should be expected to respond was generated. Efforts were made to develop a relatively comprehensive list that would address the needs of several types of programs, and also provide significant detail in regards to how to operationalize broad questions into specific ways to assess student and institutional outcomes with respect to this program.

³ While the program is intended to include both science and engineering, the initial grants were made to engineering programs, and our evaluation design is thus based on engineering programs. However, it is expected that it would be easily adaptable to other STEM (science, technology, engineering, and math) disciplines as well.

A preliminary description of the evaluation design was presented at the NSF Veterans' Education in Science and Engineering 2011 Principal Investigator meeting at NSF headquarters on March 15, 2011. Feedback about the preliminary design was received from a number of the NSF grantees, and was incorporated into the revised design.

Philosophy

One of the key recommendations from the April 2009 NSF workshop which helped launch the Veterans' Education in Science and Engineering Initiative stated that "NSF and the other federal science and engineering agencies should create an education/career development program focused on getting veterans into science and technology careers" (National Science Foundation, 2009, p. 2). The evaluation design was guided by this overall goal. In support of this goal, assessments were developed for five core areas, largely reflecting a timeline of student entry and passage through the educational pipeline:

- Program outreach and recruitment
- Admissions, matriculation, and enrollment
- Experiences during the program
- Program completion outcomes
- Sustainability

These time frames are matched with administrative and programmatic functions, and questions were developed to assess the efficacy of program activities and extent to which the program promotes positive outcomes for both student participants and student veterans more generally.

Because the grantees under any expansion of the NSF program are expected to be diverse in terms of their program design, target audiences, degree level, and institutional type, another guiding principle of our evaluation design was to incorporate as much flexibility as possible. The intent was to provide the NSF and grantees with a number of potential questions each program's evaluation could address, rather than mandating that all grantees address each of these questions in their evaluation. Thus, it will be up to the grantees, in their proposals, to determine which of these questions are most relevant for their program and to justify decisions to exclude certain evaluation questions.

Questions in the **Program Outreach and Recruitment** section are designed to evaluate the strategies used to disseminate information and recruit students to specific NSF Veterans' Education in Science and Engineering Initiative programs. These questions assess the extent to which programs have met any recruitment goals they may have set, which campus offices and administrators are involved in the recruitment process, the extent and efficacy of any marketing or recruitment strategies programs employ, and the attractiveness of the program for eligible students. Questions also inquire about efforts to inform communities underrepresented in the STEM fields (e.g., people of color and women) about programmatic initiatives.

The **Admissions, Matriculation, and Enrollment** section of the evaluation includes questions in regards to these processes at two levels: the general institution and the specific NSF Veterans' Education in Science and Engineering Initiative program. In other words, there are two sets of

questions. The first set assesses the process and support for veteran students as they navigate admission to the institution; identification of veterans in the admissions process, whether there is counseling and support available throughout the admissions process, fee waivers and other incentives, how credits for prior academic work and training are assessed and awarded, and financial aid and support. The second set of questions focus on the process by which decisions are made about who will participate in the specific NSF Veterans' Education in Science and Engineering Initiative program. These questions evaluate the decision making process and the criteria considered, as well as the representation of students from underrepresented communities in the pool of veterans selected for the program.

The third section, **Experiences During the Program**, is designed to allow institutions to describe and evaluate the actual programmatic, curricular, and other initiatives included in their program. The questions in this section allow programs to describe how participating veterans have experienced the various initiatives, any changes that have been implemented in curriculum, structure, or other characteristics of the academic program, and the specific steps being taken to facilitate the social and/or academic transition of student veterans to both the institution and engineering study.

Program Outcomes related questions are located in the fourth section of the evaluation, which largely consider the bigger picture outcomes of students participating in the Initiative, as compared to other veterans on a campus and other (non-veteran) students in engineering. Specifically, programs are asked to provide information that documents the ways in which their programmatic initiatives have influenced the enrollment, persistence, and degree attainment, and/or post-degree career and educational outcomes for program participants, and student veterans generally, in engineering and STEM-related fields.

Finally, the fifth section of the evaluation assesses **Sustainability**, or the extent to which programmatic initiatives will continue beyond NSF funding of the NSF Veterans' Education in Science and Engineering Initiative programs. These questions inquire about changes in or new institutional structures, processes, and programs which will continue to promote access to and success in engineering programs for Student veterans.

How to Use the Evaluation Matrix

This evaluation guide was designed to be both comprehensive and flexible; thus, while programs should find the questions they would need to assess the efficacy of their respective programs, they should not feel obligated to address all questions or sections of the evaluation plan. Rather, each individual program Principal Investigator and evaluation team should select the broad sections and specific questions within each section which are relevant to the program they have implemented at their institution.

The evaluation questions are presented in the attached **Evaluation Matrix**, organized by the following sections: program outreach and recruitment; admissions, matriculation, and enrollment; experiences during the program; program completion outcomes; and sustainability (described in detail above). Within each section, the Evaluation Matrix is organized into three columns: Evaluation Questions, Assessment Mechanisms, and Assessment Type and Analysis.

The **Evaluation Questions** column represents the broad issues to be addressed within the given section. For example, in the Program Outcomes section, there are four evaluation questions that this design suggests a program could potentially address:

- How has this program influenced the *enrollment* of program participants and veterans in engineering?
- How has this program influenced the *persistence and degree attainment* of program participants and veterans in engineering?
- How has this program influenced the *post-degree outcomes* (e.g. job placement, graduate program enrollment in STEM fields) of participants?
- Have there been impacts beyond what was anticipated in the initial program design?

The next column within the section, **Assessment Mechanisms**, offers more specific questions to answer or information to collect which would allow programs to address the larger evaluation questions. For example, while a broad evaluation question may be “How has this program influenced the *persistence and degree attainment* of program participants and veterans in engineering,” the more specific assessment mechanisms that programs should use to answer the question include:

- What were the actual enrollment/persistence/degree attainment *accomplishments* of the program participants?
- How did program participants compare to other engineering students in terms of persistence, degree attainment, and time-to-degree?
- What impact has your program had on the persistence and degree attainment of veterans in engineering, more generally?

The third column, **Assessment Type and Analysis**, offers programs guidance regarding the specific tools or modes of analysis that can be utilized to address the various assessment mechanisms and ultimately answering the evaluation questions. To continue the example, the third column instructs Principal Investigators and program evaluation teams to address the assessment mechanism “what were the actual enrollment/persistence/degree attainment *accomplishments* of the program participants” by examining program or institutional databases which track participant registration information. It is also recommended that program evaluators conduct focus groups or interviews with students eligible to participate in the specific NSF Veterans' Education in Science and Engineering Initiative program to determine whether there are differences in the experiences and outcomes of students who did and did not participate in the program.

Evaluation Matrix

<u>Program Outreach and Recruitment</u>		
Evaluation Question	Assessment Mechanisms	Assessment Type and Analysis
I. How much of the population eligible to participate in your program do you serve?	<p>A. What percentage of the Veteran student population on campus is eligible for this program based on your selection criteria?</p> <p>B. What are some of the demographic differences between those who do and do not seek information and actually <i>apply</i> to the program?</p> <p>C. What are the demographic differences between the eligible students who do and do not <i>participate</i> in your program?</p> <p><i>Demographic data should include:</i></p> <ul style="list-style-type: none"> • <i>Gender/Sex</i> • <i>Race/Ethnicity</i> • <i>Age</i> • <i>GPA</i> • <i>Course completion/educational background</i> • <i>Branch of the military and Military Occupational Specialty (MOS)</i> 	<p>Type: Surveys or database mining to collect demographic data on Veteran students: at the institution; in STEM and engineering; all eligible for the program.</p> <p>Analysis: Descriptive statistics and group comparisons (t-tests, ANOVA)</p>
II. Did you have any recruitment goals or benchmarks? Were they met?	<p>A. How many students:</p> <ul style="list-style-type: none"> • Did you aim to attract to the program? • Seek program information? • Submit applications? • Are ultimately selected to participate in the program? 	<p>Type: Surveys or database mining to collect demographic information and count data</p> <p>Analysis: Descriptive statistics</p>

<p>III. Who is responsible for and/or involved in program outreach and recruitment?</p>	<p>A. Who participates in efforts to recruit students to the program and how are they involved:</p> <ul style="list-style-type: none"> • Campus offices? • Veterans' student services? • Institutional personnel (e.g., faculty, administrators)? • Key personnel contacted for recommendations or nominations 	<p>Type: Program documents and policies in relation to recruitment strategies</p> <p>Analysis: Synthesis of general themes with specific examples</p>
<p>IV. How is information about the program advertised and/or disseminated?</p>	<p>A. Please describe forms of advertising utilized (e.g., website, email, letters, faculty nominations, information sessions)</p> <p>B. What specific efforts were made to inform veterans, those recently separated from the military, participants in Transition Assistance Programs (TAP), and current military servicemen and women about this program?</p> <ul style="list-style-type: none"> • Visits to military bases and installations? • Outreach to veterans enrolled in community colleges? • Contact with Transition Assistance Program (TAP) <p>C. What efforts did you make to reach out to other student communities underrepresented in STEM (e.g., women and underrepresented minorities)?</p>	<p>Type: Program documents and policies in relation to recruitment strategies</p> <p>Analysis: Synthesis of general themes with specific examples</p>
	<p>D. Please indicate how many individuals you have met with in regards to this program by reporting on the following:</p> <ul style="list-style-type: none"> • Number of visits to military installations or bases and number of prospective participants met • Number of information sessions held and participants 	<p>Type: Surveys or database mining to collect count data</p> <p>Analysis: Descriptive statistics</p>

	<ul style="list-style-type: none"> • Rough tracking of inquiries (number and from who) • Hits to program website <p>E. Which of your utilized advertising and marketing strategies appears to reach and draw the most students?</p>	
	<p>F. How much do eligible students (applicants and non-applicants):</p> <ul style="list-style-type: none"> • Know about the program? • Perceive ease of access to information 	<p>Type: Focus groups or individual interviews with eligible students and those participating in the program (separate groups).</p> <p>Analysis: Synthesis of general themes with specific examples</p>
<p>V. What are the general thoughts and perceptions about the program amongst students in your target population?</p>	<p>A. How do participants and non-participants respond to the following:</p> <ul style="list-style-type: none"> • How do you perceive the program and its value? • What motivated you to apply (or not apply) to participate in the program? 	<p>Type: Focus groups or individual interviews with eligible students and those participating in the program (separate groups).</p> <p>Analysis: Synthesis of general themes with specific examples</p>
<p><u>Admissions, Matriculation, and Enrollment</u></p>		
Evaluation Question	Assessment Mechanisms	Assessment Type and Analysis
<p>I. Please describe the institutional admission or enrollment process for student veterans</p>	<p>A. How and when are veterans identified in the admissions process (e.g., on application, from personal statement, by applying for benefits)?</p> <p>B. Is there an application fee for students? Is it waived for student veterans?</p> <p>C. Is there access to pre-enrollment advising or support? If so, please describe.</p>	<p>Type: Institutional admissions and enrollment policies and processes</p> <p>Analysis: Clear description of processes; Synthesis of general themes with specific examples</p>

<p>II. How has your institutional admission process changed since the start of the grant (if at all)?</p>	<p>A. What is the total number of veterans on campus? How have these numbers changed since the start of the NSF grant?</p>	<p>Type: Surveys or database mining to collect count data</p> <p>Analysis: Descriptive statistics</p>
	<p>B. Did your program change or enhance the ability of transfer students to enroll at the institution? If so, how?</p>	<p>Type: Institutional and program admissions and enrollment policies and processes</p> <p>Analysis: Clear description of processes; Synthesis of general themes with specific examples</p>
<p>III. How has the credit assessment process changed for engineers by virtue of this program?</p> <p><i>Note: This should include other postsecondary education credits as well as ACE Military Credit transfer program</i></p>	<p>A. What was the average number of credits transferred into engineering before and after the program's implementation?</p> <p>B. Do the credits veteran student transfer in count for any degree or graduation requirements? If so, which ones?</p>	<p>Type: Institutional enrollment policies and processes; Data mining</p> <p>Analysis: Clear description of processes; Synthesis of general themes with specific examples; Descriptive statistics</p>
<p>IV. What are the institutional and/or programmatic financing strategies that you are using to promote college affordability for veteran students?</p>	<p>A. How does the institution advise veterans on the most effective use of their veterans benefits?</p> <p>B. Have your financial aid policies/strategies in relation to veterans changed since the start of the grant?</p> <p>C. On average, what is the length of time between admission, enrollment, and receipt of benefits for student veterans?</p> <p>D. Do your certifying officials provide advice in addition to processing benefits?</p>	<p>Type: Institutional financial aid policies and processes</p> <p>Analysis: Clear description of processes; Synthesis of general themes with specific examples</p>

V. How does your program select participants?	A. Please describe the program selection/admissions process in detail, including: <ul style="list-style-type: none"> Who is involved in the selection process? What does the student application include? On what information does the program admissions committee base its decisions? 	<p>Type: Staff observations, policies, and processes</p> <p>Analysis: Synthesis of general themes with specific examples</p>
	<p>B. What is your rate of admission to the program?</p> <p>C. How many students from communities underrepresented in STEM (e.g., women and people of color) apply to and are admitted to your program?</p> <ul style="list-style-type: none"> Please report proportion of applicant pool and selected student pool 	<p>Type: Surveys or database mining to collect count data</p> <p>Analysis: Descriptive statistics</p>
<u>Experiences During the Program</u>		
Evaluation Question	Assessment Mechanism	Assessment Type and Analysis
I. What are the overall goals of the program?	A. Describe the goals of the program, e.g., targeted number of degree recipients; change in curricular structure, new programs or services, etc.	<p>Type: Taken from grant proposal</p> <p>Analysis: Note any changes from original grant proposal</p>
II. What are the curricular, academic support, policy, or process interventions as initially designed by the program?	<p>A. Describe clear overview of all of the program components and strategies.</p> <p>B. What offices (if any) outside of your program or department did you work with to develop your program?</p> <p>C. Have there been changes to the program strategies, processes, or support structures since it's been instituted? If so, what are they and what instigated these changes?</p>	<p>Type: Staff observations, policies, and processes</p> <p>Analysis: Synthesis of general themes with specific examples</p>

	D. How were these interventions applied to and experienced by program participants?	Type: Focus groups or interviews with program personnel and program participants Analysis: Synthesis of general themes with specific examples
III. How is your program facilitating the transition of veterans into the institution/ engineering?	A. Have you identified any common academic issues that veterans have as they transition to the institution? How has your program addressed them? B. Have you identified any common social issues that veterans have as they transition to the institution? How has your program addressed them?	Type: Staff observations, policies, and processes Analysis: Synthesis of general themes with specific examples
IV. What steps were taken to ensure that veterans are socially integrated into the institution/ engineering programs and profession?	A. What components of the program focused on student integration outside of the classroom? B. How have existing institutional resources been utilized?	Type: Program records; student surveys, interviews, and focus groups Analysis: Synthesis of general themes with specific examples
<u>Program Outcomes</u>		
Evaluation Question	Assessment Mechanism	Assessment Type and Analysis
I. How has this program influenced the enrollment of program participants and veterans in engineering?	A. What were the enrollment goals of the program articulated in your grant proposal? B. How many students did your program ultimately enroll? C. How has the number of veterans in engineering changed since the start of the program?	Type: Presentation of goals from original grant application and subsequent revisions, and institutional/program records

<p>II. How has this program influenced the persistence and degree attainment of program participants and veterans in engineering?</p>	<p>A. What were the persistence and degree attainment goals of the program articulated in your grant proposal?</p> <ul style="list-style-type: none"> • Where there other goals that you articulated? <p>B. What were the actual enrollment/persistence/degree attainment accomplishments of the program participants?</p> <p>C. How did program participants compare to other engineering students in terms of persistence, degree attainment, and time-to-degree?</p> <p>D. What impact has your program had on the persistence and degree attainment of veterans in engineering, more generally?</p>	<p>Type: Presentation of goals from original grant application and subsequent revisions</p> <p>Type: Surveys or database mining to collect count data; Focus groups or individual interviews with eligible students and those participating in the program (separate groups).</p> <p>Analysis: Descriptive statistics; Synthesis of general themes with specific examples</p>
<p>III. How has this program influenced the post-degree outcomes (e.g. job placement, graduate program enrollment in STEM fields) of participants?</p>	<p>A. What were the post-degree outcomes of program participants in job placement and/or subsequent postsecondary enrollment?</p> <p>B. How do post-degree outcomes of program participants compare to non-program participants in engineering?</p> <p>C. What impact has your program had on the post-degree outcomes of veterans in engineering, more generally?</p>	<p>Type: Surveys or database mining to collect count data; Focus groups or individual interviews with eligible students and those participating in the program (separate groups).</p> <p>Analysis: Descriptive statistics; Synthesis of general themes with specific examples</p>
<p>IV. Have there been impacts beyond what you anticipated in the initial program design (e.g., on the college, insight into</p>	<p>A. Have other campus offices changed their behavior or programs/services in response to the NSF grant?</p>	<p>Type: Interviews with other campus offices that deal with veterans issues</p>

other opportunities, veterans office, overall institution, other services)?		
<u>Sustainability</u>		
Evaluation Question	Assessment Mechanism	Assessment Type and Analysis
I. How does the institution plan to sustain efforts to enroll and graduate veterans in engineering fields after the grant has ended?	A. Identification and clear description of specific plans to maintain programs or services after the grant has ended?	Type: Interviews with Principal Investigators and engineering college leadership
II. What plans have been made for ongoing tracking of populations of interest, e.g., veterans in engineering disciplines, including those populations historically underrepresented in engineering fields?	A. Identification of program-, college-, or institution-wide systems for tracking veterans by discipline.	Type: Interviews with Principal Investigators and engineering college leadership, as well as central administrative offices such as registrar

Conclusion

This study presents the design for an evaluation of the NSF's Veterans' Education in Science and Engineering program. Using data and information collected from visiting a number of colleges and universities around the country, the project team from the Center for the Study of Higher Education at The Pennsylvania State University designed the evaluation to enhance NSF's understanding of what practices and programs will be most successful in encouraging military veterans to enroll in and be successful at engineering and other STEM disciplines

The key findings from this study include:

- While military veteran students have some needs similar to other adult students (such as being older, having dependents, etc.), they have unique needs and characteristics of which higher education institutions need to be aware.
- Colleges and universities that have offices dedicated to meeting the needs of veterans students are best positioned to ensure their success once on campus. In the absence of a dedicated veterans office, having staff in place in key offices – such as financial aid, admissions, bursar, counseling, etc. – who are sensitive to and knowledgeable about veterans issues is critical to success of these students.
- The training, both formal (in the classroom) and informal (on the job), received by veterans while they were on active duty in the military is generally very practice-oriented and hands-on, and lacks the theoretical grounding provided in many postsecondary courses.
- While many military veterans have had technical experience while in the military that would lend itself to later study in STEM disciplines, their lack of classroom training – particularly in the theoretical aspects of these disciplines – means that they are not able to capitalize on this experience by using it to ease their entry into STEM careers.
- The lack of advanced mathematics courses for active duty military personnel also inhibits veterans' selection of STEM majors. Postsecondary institutions could utilize on-line advanced math courses to increase availability of these required skills for active duty military personnel.
- Military veterans expressed much frustration and displeasure with the unwillingness of traditional colleges and universities (public and not-for-profit) to award college credit for military training and experience. Many veterans entered the armed forces with the impression that after separation and upon entering college, their military training and experience would allow them to “jump start” their postsecondary education. Very few of the veterans we spoke with reported that this had worked for them.

While we did not speak with veterans attending for-profit (proprietary) institutions, it is likely that sector's success in attracting veterans under the post-9/11 benefits is due in large part to institutions' willingness to award credit for military training. Even though their higher tuition rates may mean that veterans would end up paying more for their education, as compared to attending a public institution (or a private, not-for-profit that participates in the Yellow Ribbon program), many veterans may see for-profits as a better deal and a quicker path to a postsecondary credential (Field, 2010).

- The use of military credits to meet the general education requirements of veterans at colleges and universities is an issue that needs to be addressed through the academic governance structure of the institution. This would typically involve the Chief Academic Officer and the Faculty Senate or institution wide curriculum committee.

By attending to these issues in its design for the expansion of the Veterans' Education in Science and Engineering program, the NSF will best help to ensure its goal of increasing enrollments in STEM disciplines and by extension, growing the size of the nation's STEM workforce.

Appendix A – Summary of Veteran-Friendly Institutions

Institution	Criteria									
	Vet counselors & services	Easy exit and re-entry	Disability & CAPS	Online courses	Vet org(s)	On campus military presence	Yellow Ribbon	Veteran frdly in other offices	Transition assistance or orientation	SOC
BU: SUNY	●	●	●	●	●	●	●	●	●	●
HACC	●	●	●	●	●	●	●	●	●	●
Maryland	●	●	●	●	●	●	●	●	●	●
Penn State	●	●	●	●	●	●	●	●	●	●
Pitt	●	●	●	●	●	●	●	●	●	●
SDCC	●	●	●	●	●	●	●	●	●	●
SDSU	●	●	●	●	●	●	●	●	●	●
Syracuse	●	●	●	●	●	●	●	●	●	●
Temple	●	●	●	●	●	●	●	●	●	●
Texas A&M	●	●	●	●	●	●	●	●	●	●
VT	●	●	●	●	●	●	●	●	●	●
USD	●	●	●	●	●	●	●	●	●	●
UVA	●	●	●	●	●	●	●	●	●	●
Widener	●	●	●	●	●	●	●	●	●	●

Legend: ● Full participation/offering ● Partial participation/offering ● No participation/offering

Binghamton University (SUNY)

- Number of staff of Veterans Affairs Office/ institution enrollment
 - One staff member in the TRIO office is listed as responsible for managing veterans benefits
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - The administration of VA benefits is run through Binghamton's TRIO Office
- Institutional Services
 - The University welcomes veterans. The Admissions Office recognizes the maturity of veterans as a positive factor and is sensitive to the impact that extenuating circumstances may have upon academic records. For these reasons, admission criteria for veterans often vary from those used for other applicants. Each veteran is urged to submit, as part of the

application, a personal statement on his or her behalf, which the Admissions Office will consider carefully as the admission decision is made.

- Career Development Center has a site dedicated to benefits and support services for veterans
- Has a Military Science Club that tries to work with Veterans Clubs in the area to assist them in their goals and learn from their experiences
- Does not participate in the Yellow Ribbon Program
- Is not a Servicemembers Opportunity College
- ROTC at Binghamton is run through Cornell University
- Binghamton offers a variety of online courses

Harrisburg Area Community College

- Number of staff of Veterans Affairs Office/ institution enrollment
 - 7 employees currently work at the Harrisburg branch (2 FTEs and 5 work study students)
 - Each other campus besides Harrisburg has approximately two representatives working in the office plus a total of two work study students across the other campuses
 - Harrisburg enrolls approximately 700 veterans or their dependents per term
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - The staff of the Military and Veterans Affairs Office (MVAO) welcomes all veterans, eligible dependents, members of the Guard and Reserves, and Active Duty personnel
 - The MVAO office processes forms and is staffed with Work-Study students who are also veterans. They provide information and forms to get benefits started. First-time students are required to participate in a 15-20 minute briefing on veterans education benefits and other important information
 - Office will also refer students out to HACC counseling or find them the appropriate contact at their VA for additional needs
- Institutional Services
 - HACC's virtual campus has over 150 different online courses in a wide variety of subjects. In addition, it offers academic programs and online student support services, including advising, library resources, career exploration, and tutoring
 - HACC offers an Associate in Arts Degree - Business Studies with electives tailored to members of the military: Active Duty, National Guard, or Selected Reserves. This program is structured to allow the student maximum flexibility in scheduling courses and classes
 - HACC will evaluate previously completed college credits and military education. Credits earned at an approved college or university in courses equivalent to those in this Program of Study are generally transferable. The College may also grant credit completed in the military that has been evaluated by the American Council of Education and assigned a recommended credit value that is directly relevant to this Program of Study
 - Does not participate in the Yellow Ribbon Program because tuition is not high enough to require it and because of changes to the law
 - Is a Servicemembers Opportunity College
 - Very veteran-friendly, instructors are very willing to work with students especially if they are still active duty or being recalled to active duty from reserve status

- Student groups for vets have been created and disbanded at times due to interest/lack thereof
-

University of Maryland

- Number of staff of Veterans Affairs Office/ institution enrollment
 - Awaiting further information
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - The Registrar's Office Veterans Affairs section at the University of Maryland processes all educational benefits before sending the information to the regional VA benefits processing center
- Institutional Services
 - The University of Maryland is committed to providing an environment that helps veterans pursue their academic and personal goals, explore different learning experiences, and be involved in campus life
 - The University Policy governing military call-ups allows for a variety of unique solutions not covered by University policy which minimizes the effects of time and financial investment put into a semester already in progress when students are called to active military service
 - The Counseling Center is offering a new service specifically designed for students who are currently serving, or who have served, in any branch of the military. This new effort, the Veterans Walk-In Hour, is a chance for student veterans to come by the Center to talk about anything on their minds
 - The Department of Resident Life is committed to assisting veterans in every way possible. Any undergraduate student called to military service can be assured of retaining their position. Also, any undergraduate student called to service will not face any housing penalties or fees for release from their agreement, and will be eligible for automatic return to the halls if their commitment group is guaranteed housing. Additionally, veterans can be sure of individual attention from the staff for special needs or issues they may face before, during or after their terms of service
 - Campus Programs' mission is to support and complement the university's academic mission and to enhance the educational experience of students through exposure and participation in social, cultural, recreational, leadership, intellectual, and governance activities. Students who are veterans are a terrific source of campus leaders and there are staff members in the Stamp ready to assist new and returning Vets in finding their way in the campus community. Among other resources are the advisor to the Veterans' Student Organization and a graduate assistant who provides services and programs for Veteran students
 - The Department of Dining Services is committed to assisting all students, and to assisting veterans in particular, in every way possible. Any undergraduate student called to service will not face any penalties or fees for release from their agreement: the dining contract will be prorated and the unused portion returned. Additionally, veterans can be sure of individual attention for special needs or issues they may face before, during or after their terms of service
 - Transportation services is equipped to assist veterans with physical disabilities

- University Career Center services has a specific liaison for veterans to assist them
 - Health, counseling, and disability services has a wide variety of programs for student veterans
 - Terp Vets is a student run organization established to provide its members the opportunity to recognize and support the community of veterans on and off campus through a variety of volunteer and social events while building a network that enhances personal and career growth
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The Pennsylvania State University

- Number of staff of Veterans Affairs Office/ institution enrollment
 - Six full-time staff and between ten and twenty veteran students on work-study who function as peer counselors.
 - The director is a veteran with a doctorate, and four of the other staff members have master's degrees (three in counseling) and three are veterans.
 - Additionally, each Penn State campus has a designated veteran representative to assist with GI Bill processing and veterans' issues at that campus.
- Services provided by Office of Veterans Programs (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - While the bulk of the office's work is the processing of GI Bill benefits, the office also acts as an advocate for veterans issues at Penn State and has a working relationship with most units and colleges to facilitate the veteran's experience on campus. The work-study peer counselors are an invaluable asset in connecting with incoming veterans. As peers they have first-hand knowledge of the challenges and experiences of the prospective student.
- Institutional Services
 - Penn State now offers CLEP testing and accepts some DANTES tests.
 - Participates in Yellow Ribbon Program
 - Penn State has a large catalog of online courses and degrees
 - For deployment/redeployment students only need to show up there with a copy of orders in hand and they are then walked through the process.
 - Penn State offers general education credit for all ACE evaluated military education and work experience when a comparable offering can be found at the University
 - Difficulties often arise from the inapplicability of these credits to the degree program, a decision made by a representative of the department dean hosting the major. Various committees exist (primarily in the Office of Undergraduate Admissions and the Commission for Adult Learners) that periodically look at ways to enhance this process both through procedure modification and through education of both students and advisors.
 - The Office of Disability Services (ODS) is aware of the on campus veteran population and referrals from the Office of Veterans Programs are handled easily. Counseling and Psychological Services (CAPS) also is very aware of the veterans and is well equipped to assist
 - Penn State University Veterans Organization is a student club that at present is very active
 - PSUVO members have started a Penn State colony of Omega Delta Sigma, a national co-ed fraternity for veterans which presently boasts five other chapters outside of Penn State.

- Penn State excels at processing GI Benefits.
 - Last year Penn State Student Affairs hosted both a spring and fall orientation for veterans that included representatives of off-campus as well as on-campus resources for veterans. A future effort may be made for a single fall program
 - Penn State participates in the Servicemembers Opportunity Colleges (SOC) Consortium only to the extent of allowing the Army Concurrent Admissions Program (ConAP) to provide referrals to Penn State. Penn State academic residency requirements preclude full SOC participation due to the liberal credit transfer policy of full SOC status.
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University of Pittsburgh

- Number of staff of Veterans Affairs Office/ institution enrollment
 - Over 350 student veterans on campus
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - Veterans benefits are run through the Office of Veterans Services (OVS), which assists veterans, guardsmen, and reservists in receiving their military benefits; facilitates their transition into University life; and supports their ongoing academic success
 - OVS catalogues contact persons in other departments across the university who are equipped to handle veteran inquiries
- Institutional Services
 - Participates in the Yellow Ribbon Program
 - Is not a Servicemembers Opportunity College
 - G.I. Jobs magazine named the University of Pittsburgh - Katz Graduate School of Business and College of Business Administration as military friendly schools for 2010, ranking them among the top 15% of all colleges and universities nationwide
 - The University of Pittsburgh has received top honors for the support services it provides veterans and for creating a military-friendly atmosphere. "Military Advanced Education's 3rd Annual Guide to America's Military-Friendly Colleges and Universities" lists Pitt as one of the top military-friendly universities
 - Pitt has programs specifically for nontraditional students
 - University of Pittsburgh is committed to removing financial barriers through participation in a variety of veterans programs. Pitt has dedicated administrators on staff who will help students understand their educational benefits
 - Pitt waives the application fee for veterans
 - Nontraditional students, including veterans, are not required to submit SAT scores. Pitt evaluates each prospective veteran student's application holistically, reviewing their past academic career as well as their personal and professional achievements
 - The University of Pittsburgh may accept credit for work done at another approved institution. Credit is granted to each admitted student on an individual basis after official transcripts have been evaluated. The University of Pittsburgh allows students who have gained knowledge through military training, independent study, advanced high school courses, noncredit adult courses, or professional development to take examinations for possible college credit
 - The University recognizes that recent veterans called up for duty may face particular challenges with admissions, enrollment, or withdrawing from the University. Pitt is committed to making these processes as accessible and as simple as possible

- Pitt has flexible admissions if student veterans need to defer their start
 - The university offers pre-college advising
 - The Veterans Student Association helps veteran students achieve their personal and academic goals by providing information regarding military and nonmilitary benefits, educational and career opportunities, and professional networking
 - The Veterans' Legal Society provides fellowship for members of the law school community who are veterans, current military members, and anyone else interested in veterans' or military issues. In addition, the organization provides the law school and the University community with information about veterans, the military and military issues, opportunities with the Judge Advocate General of the various branches of military, Departments of Veterans' Affairs opportunities, and other related topics and issues
 - The Military Medicine Interest Group was established to increase understanding of military medicine in the PittMed community, establish relationships with military physicians and medical personnel in order to create unique medical opportunities, and to bring the community of military members in the student body together
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San Diego City College

- Number of staff of Veterans Affairs Office and institution enrollment
 - San Diego City College has operated successful military education programs at all skill levels for over a quarter of a century. In the 2002-2003 school year, City College offered over 100 college courses on five of the six major bases in San Diego with an enrollment of nearly 3,000, resulting in tens of thousands of dollars of savings in Navy Tuition Assistance funds. The sixth base, MCAS Miramar, is serviced by Miramar College, another campus of the San Diego Community College District. City College and/or the District have provided Military Contracts instructional services for the past 28 years in more than 30 military contracts, totaling over \$400 million
 - Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - The Veterans Affairs Office staff provides counseling and guidance to veterans and assists them in the selection of educational programs which qualify for veterans benefits
 - Institutional Services
 - San Diego City College is the institution within the San Diego Community College system that has its own site for military education linked off the main San Diego Community College site
 - The department of military education at San Diego City College has been providing quality college education to military personnel both nationally and regionally since 1977. The majority of the military education staff is retired or veterans of the US Armed Forces
 - San Diego City College is a participating member of Service members Opportunity Colleges (SOC)
 - Veterans with disabilities are encouraged to pursue services offered through Disability Support Programs and Services
 - Participates in the Yellow Ribbon Program
 - School has a variety of online programs
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San Diego State University

- Number of staff of Veterans Affairs Office and institution enrollment
 - Four full-time staff members and one part time staff member
 - Office processes requests for approximately 1,000 veteran students per year and approximately 1,300 requests for veteran dependents who are using fee waivers
 - Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - The SDSU Veterans Center offers assistance with applying for education benefits
 - The center partners with the Student Veterans Organization (SVO) to:
 - Ensure that all veterans at SDSU are receiving all benefits entitled to them
 - Provide a link to readjustment counseling services if needed
 - Lobby at the state and federal levels for increases in benefits for student veterans
 - Provide an atmosphere of great fellowship for like-minded individuals.
 - Assist, in any way, in helping our fellow Veterans, Veteran's dependents, active duty personnel, and Veteran supporters realize their full potential in academia, the workplace and in their social circle.
 - The center also has sections on their website that offer assistance with admissions, financial aid, scholarships, getting involved, residency requirements, other resources provided externally at the state and national level, and more
 - Office offers a first-time freshman orientation as well as a transfer orientation for student veterans
 - One staff member is a VA vocational rehabilitation counselor and is therefore able to access the VA database and provide a great deal of counseling and information to student veterans
 - Institutional Services
 - SDSU had veteran-only housing on their fraternity row
 - SDSU is a Servicemembers Opportunity College
 - Offers a variety of online courses through its College of Extended Studies, and has a section specifically devoted to veterans and some programs that are tailored to their experience
 - Their counseling and psychological services website has a specific section for student veterans
 - Other offices are aware of the services provided by the Veterans Affairs Office and consistently refer student veterans to them – sometimes unnecessarily
 - Both the university and the local VA office provides health care and counseling and psychological services to student veterans
-

Syracuse University

- Number of staff of Veterans Affairs Office and institution enrollment
 - 0.5 employees dedicated to Veterans – split between three full-time members of the part-time student financial aid office
 - As of spring 2010, Syracuse had 176 students using one of the various veterans educational benefits
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs

- for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
- Office provides child care grant information and referral to a local not-for-profit resource organization for assistance in choosing child care
 - Office assists with deployment/redeployment, policies governing refunds, incompletes, re-enrollment, etc. to aid student veterans who are called to active duty
 - Provides advising on returning to school, selecting courses, and exploring educational options that meet personal and professional goals
 - Serves as a first point of contact for graduate degree programs and academic department referrals
 - Offers assessments of financial aid eligibility, including federal, state, and institutional grants and scholarships, veteran's benefits, and special opportunity programs
 - Promotes access to SU offices that offer specialized assistance like career planning and disability services
 - Coordinates referrals to community-based services such as the Syracuse Vet Center and VA Medical Center
 - Provides information on campus programs available to veterans, including the Whitman School of Management Entrepreneurship Bootcamp for Veterans with Disabilities, which offers free training in entrepreneurship and small business management
 - The Veterans Center partners with SU's WorkKeys Center to provide skills assessment, instructional support, and training to prepare returning veterans for the workplace
 - Institutional services
 - Syracuse offers veteran friendly payment policies that are tailored to the particular needs and restrictions that veterans are subject to
 - Participates in the Yellow Ribbon Program
 - SU is currently establishing a veteran's lounge specifically for student veterans that will be staffed by fellow veterans
 - Offers a student veterans club
 - SU is a member of the Servicemembers Opportunity Colleges (SOC)
 - SU's counseling center runs mindfulness sessions for any interested veterans – and the Veterans Resource Center is within a block of the regional VA medical center and 5 blocks of the VA counseling center, so much support is given through VA resources
-

Temple University

- Number of staff of Veterans Affairs Office/ institution enrollment
 - No staff member is listed as specifically responsible for handling veteran inquiries
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - All eligible veterans must apply for benefits through the Office of Academic Records when they are admitted to the University and at the beginning of each subsequent semester. This office verifies enrollment for all V.A. programs
- Institutional Services
 - Temple will accept credits from another regionally accredited college or university if it has a course equivalency at Temple and the student earned a grade of C- or better in the course. Temple accepts military credits based on credit recommendations provided via

- the American Council on Education (ACE) AARTS for Army and SMARTS for Navy and Marine transcripts. Temple also grants credit from the Community College of the Air Force
- The Main Campus Office of Continuing Education serves a wide variety of students, including veterans returning to school for undergraduate or graduate courses. Students can also enroll as non-degree to just take classes
 - The Tuttleman Counseling Center is an accredited mental health service for students on campus, and provides individual and group counseling services, and crisis intervention. Several of the professional staff have experience working with veterans, including veterans of the Iraq war.
 - The Office of Disability Resources and Services offers confidential services for veterans with a disability, such as post traumatic stress disorder, traumatic brain injury or other disability
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Texas A&M University

- Number of staff of Veterans Affairs Office/ institution enrollment
 - Three staff members are listed: one responsible for Veterans Certifying, one for Academic Advising, and one who serves as the Servicemembers Opportunity Colleges Consortium contact
 - In 2007/2008, 558 students received federal veteran educational benefits and another 150 utilized the Hazlewood Exemption (both veterans and dependents of veterans)
 - Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - Veterans Service Office provides assistance with admissions, withdrawing from Texas A&M, re-enrolling, and distance education
 - Assists with scholarships and provides financial aid information
 - Provides information on community resources
 - Institutional Services
 - Texas A&M University is a member of the Servicemembers Opportunity Colleges (SOC) Consortium
 - Disability services is equipped to work with veterans
 - Participates in Yellow Ribbon Program
 - The school provides counseling services for career and testing counseling as well as adjustment to college life and offers a group for returning veterans
 - The Texas A&M Veterans Association is a social organization made up of prior service members, active duty personnel, national guard personnel, and reservists. The Association is dedicated to helping members adapt to university life and serves as the voice for veterans at Texas A&M University
 - Delta Company is a special unit for veterans of the US Armed Forces; tailored to meet the needs of former service men and women. It is for prior service men and women in the active military, reserves, and National Guard who are looking to get the corps experience while pursuing a degree at A&M. V-1 is also for married students, graduate students. International students, and varsity athletes. V-1 is a unique outfit that is readily able to adapt to cadet's individual needs and backgrounds
-

University of San Diego

- Number of staff of Veterans Affairs Office and institution enrollment
 - One staff member in the Registrar's Office is responsible for handling veteran's benefits and requests
 - The office serve approximately 150 students per year, this is expected to increase
 - Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - Assists with certifying veterans to the VA, all other services are rendered on a by-student basis through the student's advisor
 - Institutional services
 - Participates in the Yellow Ribbon Program
 - School of Business Administration and Education is a Servicemembers Opportunity College
 - USD appears to have some online courses through their School of Continuing Education, but the offerings do not seem as robust as at the other comparison schools
 - School anticipates a great deal of changes for veteran-specific services and organizations given the dramatic rise in student veterans on campus
 - Undergraduate Admissions has someone responsible for dealing with all incoming veterans
 - Flexible admissions, understand the typical background characteristics of student veterans
 - Upon acceptance, they are referred to the VA and the VA coordinator in the Registrar's Office, as well as provided with information on institutional services
-

University of Virginia

- Number of staff of Veterans Affairs Office and institution enrollment
 - Have two staff who are particularly well versed with veteran enrollment issues in the registrar's office, but they do not work on these requests full-time
 - They have approximately 275 veterans on campus, and that number is expected to increase substantially over time
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - The Registrar at UVA constitutes their Veterans Affairs office. This office is responsible for certifying veterans to the VA, and that is their primary function related to veterans
- Institutional services
 - Has a clear policy for veterans who are called to active duty in the middle of their term, and for families of veterans who may be in university housing when this occurs
 - Some schools within the university participate in the Yellow Ribbon Program
 - Dean of Students office does not provide any specific services to student veterans – refers requests to the Registrar's Office
 - UVA has a separate office of student financial services that handles anything that has to do with finances, but this office is not veteran-specific. Student Financial Services has

designated one staff member who is knowledgeable about the financial aspects of veterans' benefits.

- School of Continuing Education and Professional Studies offers a wide variety of online courses

Virginia Polytechnic Institute and State University

- Number of staff of Veterans Affairs Office and institution enrollment
 - One person in the registrar's office is responsible for dealing with veteran enrollment and other registration items
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
 - Office of the University Registrar is the Veterans Affairs Office equivalent and processes VA forms for educational benefits and certifies enrollment to the Department of Veterans Affairs
 - Office provides information regarding certain procedural requirements and other processes relevant to the Department of Veterans Affairs.
 - Offer an orientation session during freshman orientation for student veterans
 - Staff available to answer questions and provide information regarding procedural requirements
 - Other processes relevant using veterans benefits at VT
- Institutional services
 - VT partners with the Virginia Military Survivors and Dependents Education Program for spouses and children of military service members killed, missing in action, taken prisoner, or who became at least 90 percent disabled as a result of military service
 - There is not a veterans student organization listed at VT
 - Does not participate in the Yellow Ribbon Program
 - HR department provides local support information for veterans
 - Local Veterans and family members of veterans from any era can participate in a free education and support group being offered through New River Valley Community Services, in conjunction with the Virginia Wounded Warrior Program. Each meeting features a different topic, helpful information about community resources, and assistance for veteran related issues.
 - Dean of Students office only provides orientation, which it also provides to other students
 - VT has a section of their wellness website devoted specifically to veterans and their families <http://www.hokiewellness.hr.vt.edu/worklife/EspeciallyforMilitaryFamilies.php>

Widener University

- Number of staff of Veterans Affairs Office/ institution enrollment
 - One staff member in Enrollment Services is listed as responsible for dealing with veterans' benefits
- Services provided by Veterans Affairs Office (e.g., assistance with university and Veteran Affairs paperwork, programs to assist students called up to active duty, orientation programs or programs for adjustment to college life, other programs available to Veterans and families, participation in

- the ACE/NASPA program for disabled vets, active veterans support group, service available to assist students with PTSD)
- Enrollment Services manages school certifications and questions regarding any VA Education Benefit Programs at Widener University
 - Institutional Services
 - Widener University welcomes applications from U. S. military veterans who want to begin or continue their college education. The University offers full-time undergraduate programs, part-time evening and weekend undergraduate programs through Widener's University College, and a choice of graduate and professional program
 - Widener provides personal and academic support, and guidance during the admissions and financial aid processes
 - Participates in the Yellow Ribbon Program
 - Is a Servicemembers Opportunity College
 - The Career Advising and Planning Services (CAPS) office provides resources and guidance to assist students with all aspects of career development. CAPS Counselors will help students choose a major, explore career options, obtain internships, apply to graduate school or find a job
 - The Office of Academic Coaching can provide one-on-one meetings with an Academic Counselor designed to assist full-time undergraduate students who are struggling in their academic courses. Academic support is individually tailored to the needs of each student, and can address areas such as: study skills; organization and time management; test taking and test anxiety; academic planning and preparation for course registration
 - The Veteran's Law Clinic at Widener University School of Law offers free legal aid to veterans living at 150% of poverty level who have been denied benefits by their Regional Office and wish to take an appeal to the BVA

Appendix B – Interview and Focus Group Protocols

Interview protocol for administrative offices and others that provide services to veterans

Administrators or members of their staff responsible for the programs listed below will be interviewed to answer the questions listed under each of the service areas. The administrators will be instructed that no individual students will be identified in the answers to these questions.

1. Advising Center and/or the advising office for students with undeclared majors or comparable office (Division of Undergraduate Studies at PSU)
 - a. Does the school provide veterans special access to tutoring services and refresher courses?
2. Study Skills, Tutors, or Writing Centers
 - a. Are there any observed or commonly acknowledged academic problems facing student veterans? Issues with particular classes or curricula?
 - b. How often do student veterans access your services?
3. Disability Services
 - a. What types of issues have you encountered while working with/supporting disabled student veterans?
 - b. How accessible are your institution's disability services and counseling services? How do students gain access to these services (e.g. policies, procedures, paperwork)?
4. Counseling and Psychological Services
 - a. How many veterans are seen and what types of problems are encountered?
 - b. How many students veterans are suffering from PTSD?
 - c. For those diagnosed with PTSD, are there any associated issues or problems you've observed?
5. Financial Aid Office
 - a. How does your school identify the student veteran population?
 - b. Can you talk about the other kinds of financial aid that veterans will often qualify for in addition to their GI Bill benefits?
 - c. Do you run into many problems with a delay in the process of GI Bill benefits for veterans, and does this create any hardship for them, i.e., registration holds, the need for short-term loans, etc.?
 - d. Can you talk about the relationship between the GI Bill benefits and tuition and/or cost of attendance at your institution? How much additional aid do veterans need to meet their costs, in addition to their GI Bill benefits?
 - e. Does the school offer any scholarships or student aid targeted to veterans?
 - f. How much do you think the new post-9/11 GI Bill benefits have helped veterans to be able to afford to attend your institution?
 - g. What kind of financial aid issues do veterans often encounter that are distinct from other students?

6. Veterans Office (if stand alone; otherwise Student Affairs)
 - a. How is the office organized?
 - b. What types of services are provided?
 - c. How many students received a certification of veteran eligibility?
 - d. Does the office advocate for veteran issues? If so, how and what types of issues have been encountered?
 - e. Is peer counseling offered, and if so what issues are encountered in peer counseling?
 - f. Does the school participate in the Veterans Administration work-study program?
 - g. Does office staff discuss changes of major or degree with students. If so, what types of changes are students most frequently seeking to make?
 - h. Does the school have on-campus veteran's counselors and services?
 - i. Does the school have a student organization for veterans?
 - j. Does the school offer a special orientation program for veterans?
 - k. Can you assist us in organizing a focus group of student veterans on your campus?

7. Engineering Department
 - a. Can we access enrollment patterns of veterans with respect to: continuous enrollment versus stop out or drop out; full-time versus part-time enrollment; persistence; degree attainment?
 - b. Can you assist us to track student veteran's choice of major and changes in major?
 - c. How does the department handle credits transferred in from ACE evaluated military transcripts?
 - d. Does the department have any insight on comparison of military training, education, and skills (ACE transcript) to selection of engineering and/or other STEM majors?
 - e. Are there any special curricula, services, and programs provided to student veterans and/or other military students in the institution?
 - f. What is the level of faculty awareness of veterans and concerns relevant to this population in the classroom?

8. General Institutional Questions
 - a. Does the school participate in the Yellow Ribbon component of the GI Bill? If so, what are the guidelines for participation?
 - b. Is there an on campus military presence (e.g., ROTC)?
 - c. Does the school have SOC (Servicemember's Opportunity Colleges) school status?
 - d. Does the school participate in the Army ConAP (Concurrent Admission Program)?
 - e. What steps do students have to take to process their GI Bill benefits?
 - f. Does the school provide ease of access to traditional campus programs with veteran knowledgeable staff: admissions, registration, academic advising, and student aid?

9. Registrar's Office
 - a. How does your school promote ease of exit and re-entry when students are called to active duty? What are the procedures?
 - b. Does your school offer online course offerings?
 - c. Does your school schedule alternative class offerings (e.g., evening or weekend courses)?

Veteran Focus Group Protocol – Veteran-Friendly Institutions

Administrators or staff who provide service programs to Veterans will be asked to provide a list of veterans we can invite to participate in focus group discussions. Consent forms will be used for participants in the focus groups and confidentiality will be guaranteed.

1. Tell me about your application process and what attracted you to this institution
2. Tell us about the bureaucratic issues of being a student, credit transfer, GI benefits, housing, or any other logistical items related to settling in
3. How would you describe the overall climate of the institution toward veterans? Would you classify it as “veteran friendly,” and why or why not? Are there any general observations you can offer on your dealings with other students, faculty, or staff?
4. Do you ever take advantage of the services that are available to you as a student or as a veteran such as the veteran’s office, tutoring, advising, counseling, etc. How accessible do you feel like the student services here are, and do they meet your needs?
5. How did you decide upon a major, and what bearing did your military experience have upon choosing your major?
6. Are there student organizations that meet your needs as a veteran?

Additional Probes

7. What attracted you to this institution?
8. Describe the institution’s application process? How did your military status play a role in your ability to apply to this institution and others?
9. Did you transfer any military credits? What was that process like?
10. What have your experiences with the institution’s processing of your GI Bill benefits been like? If you had problems with the GI Bill, was there someone on campus to assist you? If yes, who helped you?
11. How often (if ever) do you access the following offices: veterans’ office (if they have one), advising center, tutorial services, disability services, counseling services? Do you find them helpful and if so, why?
12. How easy or difficult is it to find information about veteran specific campus services?
13. Is there a student organization for veterans? Do you participate? Why or why not?
14. Have you been recalled to active duty since becoming a student? If so, how smooth was the institution’s withdrawal and readmission process?
15. Tell me a bit about your adjustment from military to student status. What assisted you in making that transition? Were there any campus services or programs that were particularly useful?
16. How would you describe the overall climate of the institution toward veterans? Would you classify it as “veteran friendly,” and why or why not? Are there any general observations you can offer on your dealings with other students, faculty, or staff?
17. If you could suggest improvements in any area of your experiences here, what would you recommend?

Veteran Focus Group Protocol – NSF Grantees:

Staff from the NSF grantee program will be asked to provide a list of veterans we can invite to participate in focus group discussions. Consent forms will be used for participants in the focus groups and confidentiality will be guaranteed.

1. How did you find out about this engineering program? How well is it advertised?
2. How did you decide to pursue engineering?
3. What (if anything) in your military background and experience shaped your decision or experiences in your major?
4. How has this program helped you in making the adjustment from the military to student status?
5. What are your relationships like with other students in the program? Who do you spend the most time with?
6. How would you describe the overall climate of the institution toward veterans? Is it different from the climate within your major? Are there any general observations you can offer on your dealings with other students, faculty, or staff?

Additional Probes

7. Are there many other veterans in the program? If so, do they form your peer/support group, or do you mix with other students?

Appendix C – Detailed Descriptions of Site Visits

Harrisburg Area Community College

Site Visit

Our team conducted a site visit to HACC on September 28 and 29, 2010 and met with:

- The Senior Counseling Director for the College, Christine Cappuzzo
- The Director of Enrollment Services, Tisa Riley
- The Assistant Director of Enrollment Services, Katie Borelli
- The Coordinator of the Records Office, Virginia Young
- The Coordinator of the Military and VA Office, Adam Walter
- The Director of Disability Services, Carole Kerper
- The Director of Financial Aid, James Carideo
- The Coordinator of the Learning Center, Linda Barr
- A focus group of five student veterans

HACC has developed policies and practices that are beneficial to student veterans. For example:

HACC's MVAO

- The staff of the Military and Veterans Affairs Office (MVAO) welcomes all veterans, eligible dependents, members of the Guard and Reserves, and Active Duty personnel
 - The MVAO office offers a wide variety of services to student veterans. For example, it processes forms and is staffed with work study students who are also veterans. They provide information and forms for students looking to begin their GI Bill benefits. First-time students are required to participate in a 15-20 minute briefing on veterans education benefits and other important information upon entry
 - The office will also refer students out to HACC counseling or find them the appropriate contact at their VA for additional needs, they will also work with professors if students are having issues and need assistance
 - The MVAO has developed a close working relationship with the Harrisburg Vets Center so that they can work with them to help students, and brings the Vets Center employees to campus to educate faculty and staff about working with student veterans
 - For students that need to withdraw after being called to active duty, the MVAO will work with the Registrar to ensure a smooth transition out and back in for the student. The aim in this process is to ensure that students do not have to work with multiple parties to deal with these issues—to make the process as easy and seamless as possible for the students
 - The office actively works to change regulations or create new policies to help student veterans. For example, HACC previously did not accept military training for its wellness requirements and the office advocated to have this policy changed
 - MVAO reports to Admissions rather than to Financial Aid

- Staff from the MVAO conduct traveling information sessions on HACC to encourage veteran student enrollment

Other HACC Characteristics

- HACC is a Servicemembers Opportunity College
- HACC offers an Associate in Arts Degree - Business Studies with electives tailored to members of the military (Active Duty, National Guard, or Selected Reserves). The program is set up to enable maximum flexibility in scheduling courses and classes
- HACC's York Campus is working to specifically train faculty in dealing with student veterans—this is considered a pilot program that may be rolled out on a college-wide basis
- HACC's disability services office is combined with CAPS and other academic services, so students that come into the office are not identified as having a disability or identifiable as being in the office for any particular reason

Focus Group Findings

As part of the site visit, we conducted a focus group with five students currently enrolled at HACC. Key findings related to:

Credit Transfer and Articulation

Several students expressed frustration with the number of credits they were able to transfer in from both their military experience and prior academic work, as well as the process itself:

- A student with two decades of military experience and previous academic work received three physical education credits and three management credits. This student was extremely dissatisfied with this allotment and felt that other community colleges would have given significantly more credit and possibly considered the student as having almost completed a degree. The student felt that other student veterans at the branch campus were receiving similar treatment
- The same student observed that veterans are able to go online to request the transfer of the AARTS transcript to the school, and that on the site AARTS provides information about what should transfer in addition to a list of schools that advertise themselves as being veteran-friendly. The student felt that, given the presence of this information, students should not have to wait with uncertainty about what would transfer while the school evaluates the transcript
- Another student had taken intermediate algebra at a four-year institution in Pennsylvania but was not able to transfer this credit into HACC because it was not 100-level. As a result, the student had to retake college algebra to satisfy HACC degree requirements
- One student had a degree from a four-year institution in Pennsylvania that amounted to approximately 66 credits and was struggling with HACC after being informed that only 18 or 20 credits would transfer in
- Students noted that there was no clear link between the veterans and the VA office through which they could request assistance in working with schools to obtain credits
- One student observed that the credit assessment process can take up to a year, which, at a

two-year college is problematic because students do not have a year to figure out what they have to take to satisfy degree requirements. The student questioned whether the motive in this timeframe was to keep students at the institution for longer time periods in order to collect revenue from their redundant coursework

- Another issue raised was the advising provided by the military—one recruiter informed a student that he had sufficient experience to qualify for a Licensed Practical Nurse degree once a school evaluated his credits. This was far from the case, which the student learned after talking to the Veteran Affairs Center and others more familiar with typical credit granting practices

Advising and Course Offerings

As with credit articulation, students felt that they had encountered some difficulty related to advising and HACC's course offerings:

- One student noted that if vets do not receive high-quality advising they may waste their benefits on irrelevant coursework and be left having to pay out of pocket when they should have been able to use their benefits. The student felt the VA should do quality control on the advising that it offers veterans
- Another student felt that HACC's evening offerings were primarily oriented towards remedial work, which meant that degree completion for students working fulltime became extremely difficult
- One vet had negative experiences with HACC's branch campus advising – he found that the campus had lost an advisor for a year and were given an interim advisor who scheduled students for courses that did not move them towards degree requirements. This student's impression was that HACC felt that it was acceptable for students to spend three years completing a two year degree and that HACC needs to adjust its credit hour requirements to make two year completion feasible for its students

Students did not express entirely negative sentiments:

- However, one vet expressed strong satisfaction with his HACC advisor, noting that she sat down with him, worked through his program sheet, figured out a list of classes that he could take, and helped him select the appropriate courses
- Another complimented HACC for its comprehensive attempts to provide information on the curriculum on its website

Climate

As one student put it, “military-friendly means more than taking [our] money”. Students expressed both positive and negative viewpoints on HACC's climate for veterans:

- While students felt that many professors were veteran-friendly, multiple students had experiences where they were negatively singled out by professors for being veterans
 - One student had a particularly difficult time getting a professor to work with him after he had been called to active duty, but another of his professors at the time

encountered a faculty member who offered to speak with any faculty who were difficult and provided the student with a great deal of assistance and support

- Students were pleased with the services provided by HACC's MVAO, finding them efficient and helpful at smoothing all processes. One student noted that vets almost immediately learn about the presence of the MVAO because if you go into any institutional office and mention being a veteran you will be directed to them for assistance

Separation from Military

Students noted that briefings on GI Benefits upon separation depends a great deal on where vets are stationed. While briefings tend to be available, the quality of the information largely depends upon the knowledge and experience of the person running the sessions. One student noted that he used the information provided by a friend who was knowledgeable about the process rather than obtaining information from his unit.

Major Choice

Students did not feel that they had selected their major at HACC based on their military experience and specialization:

- One student selected electrical engineering because he felt medicine would be too competitive
- Another student selected nursing because he felt that continuing with his MOS would have required too much additional, intensive training

Institutional Services

Students were pleased with HACC's institutional services:

- The writing labs were commended, as was HACC's tutoring program
- Students felt professors were effective at publicizing the presence of HACC's tutoring and other academic services—professors told students verbally and posted information about these services on their syllabi
- In addition to the aforementioned praise students offered the MVAO, another student noted that he had been considering a move to another county but changed his mind after looking at the college there—he felt the staff had no knowledge about military or veteran students, lacked a certifying official, and generally were unprepared to deal with him as a student. This student argued that having staff available to assist with veterans benefits is a primary reason for attending HACC

Acculturation and Engagement

Students felt it would be helpful to have more opportunities to engage at HACC as veterans:

- They noted that in the past HACC has had a veteran student organization but due to student turnover they were unable to keep it

- However, students in the focus group felt that having such an organization would be helpful and that they would participate in it because it would give them the opportunity to engage with other veterans and share information to make their academic experience more successful. Students felt it would be useful to have the opportunity to take care of each other in an organized setting
- At present, one student felt that word of mouth allowed other veterans to find him to get assistance and information, and that he interacted with his fellow students this way frequently, but that it would be better to have something formal so that students could get assistance even prior to matriculation
- Students noted that the MVAO serves something of this social and advising function currently
- Students also suggested that HACC create a veterans study area to allow vets to study in a quiet, supportive environment on campus

Interviews: Key Themes and Issues

Credit Transfer and Articulation

HACC's credit evaluation process is completely manual – other schools have to send in an official transcript, which is then manually evaluated on a course by course basis. While staff felt that it was simple to award physical education credit based on military experience, the office does have to complete a manual evaluation of AARTS transcripts as well if they are submitted. Staff in the office read ACE recommendations but do not necessarily award the same credits. Students who submit transcripts who are in a General Studies major are asked to indicate an area of interest or declare something more specific before staff will evaluate each prior course to see if they can be given in-major credit. The evaluator will attempt to at least find free elective credit for students, but some specific courses in-major require additional evaluation from faculty in the area. HACC is in the process of trying to upgrade its technical capabilities so that some of the process for credit evaluation can be automated.

For military credits, courses vets have taken in math, English, and speech do not transfer—HACC has found that these courses do not give students grades and do not bear resemblance to HACC's offerings. However, HACC's credit evaluator did not feel as though the amount and type of credits typically granted by HACC differed significantly from other community colleges or four year institutions.

From a student perspective, veterans seem to be better at understanding the process than much of the student population. In terms of a relation of MOS to major choice, HACC has seen some veterans interested in health careers who had medical experience in the military, but that has been the only trend observed thus far.

Funding

Veteran students who come to HACC typically deal with the MVAO for their benefits. As a community college, HACC does not have a high percentage of veteran students seeking additional aid due to the low tuition and GI Bill benefits. HACC will extend no-interest loans if

GI Benefits are delayed, and HACC will flag students who have not received their benefits to prevent them from receiving registration holds.

Acculturation

HACC attempts to assist veteran students with the transition to college:

- HACC has found that with veterans much of the challenges they face come as much from being an adult student as being a veteran
- HACC will do short-term, solution-focused counseling with students, but they refer students out to other counselors or resources in the community for long-term assistance
- While HACC is not able to officially track the number of veterans seen in their support offices, one staff member guesstimated that approximately 3-4% of veterans seek CAPS assistance, which is higher than average in comparison to the rest of the student population
 - For the veterans who seek assistance and self-identify, HACC has seen issues such as adjusting to family life, mood disorders, PTSD (which is the most common), depression, traumatic brain injury, unwillingness to seek services from the VA, students becoming easily frustrated and turning to verbal abuse, paranoia, learning to deal with the maturity and age differences with undergraduates, trying to develop a sense of belonging, etc.
 - However, staff felt that professors were supportive of veterans and that issues did not arise because faculty were discriminatory
 - The community college structure is somewhat restrictive due to the non-residential student population. The key for HACC is to develop a solid network of external support for students so that they can make effective referrals
 - With respect to referrals, approximately half of the veteran students who self-identify arrive without a referral, but in other cases students are sent due to a classroom concern
- Veteran student organizations have been founded and disbanded multiple times at HACC due to levels of student interest and engagement—HACC is considering reinstating the organization currently

Issues with the VA

HACC staff mentioned a number of issues related to dealing with the VA:

- HACC has experienced repeated issues with getting disabilities documentation from the VA. This is sometimes because students are not persistent enough in seeking their documentation, but HACC's disability services staff will often intervene to work with the VA to procure documentation in such cases
- Another staff member noted that the VA can be too stringent with the types and frequency of treatments they require veterans to complete in order for them to continue to receive benefits—this can be an issue for veterans who have trouble leaving their home, let alone making it to therapy a certain number of times in a given time period

Preparedness for College-level Work

HACC has seen some fairly consistent veteran issues that impact their readiness for college work:

- TBI and PTSD are common issues. HACC's goal in counseling students with these issues is to help the students figure out what it will take to make them successful and manage their issue
 - For TBI, this often involves assisting students with study skills and looking into the specific form of their issues to make a student-specific plan
 - PTSD and other disorders can cause vets to have trouble working in group situations, connecting with classmates, and interacting in general. Part of this issue can also be related to maturity differences between vets and younger students, so coursework that requires students to form bonds and work in groups can be difficult for veterans
 - Often the MVAO will refer veterans to disability services and CAPS, which is a vital function for the office to play
- From a tutoring perspective, staff have not seen a large number of veterans self-identify as needing services. One staff member we spoke with noted that veterans tend to be high achievers who are motivated and perform well academically
 - The tutoring center has employed student veterans as tutors in the past

Enrollment and Tracking

HACC enrolls approximately 700 veterans or their dependents per term, but does not yet have the ability to track them as a sub-group of students for data analysis purposes. Additionally, veteran students may not self-identify when seeking certain services, such as CAPS or disability accommodations, which makes keeping track of the number of veteran students seen nearly impossible.

Aside from tracking problems caused by lack of technology and students choosing to avoid identification, student tracking is further complicated by the nature of community college enrollments—many students come and go multiple times over the course of their tenure at HACC.

However, in spite of tracking difficulties, HACC has seen its veteran population increase exponentially—it doubled from fall 2009 to fall 2010, which staff feel is primarily due to the new GI Bill as well as the services offered by the MVAO—word of mouth among veterans was cited repeatedly as a reason for HACC's popularity.

The Pennsylvania State University

Site Visit

Our team conducted the site visit to Penn State over the course of the grant and met with:

- Karen Duncan, the Senior Associate Registrar

- Ginny Newman, Assistant Director of Military Education in Penn State Outreach for World Campus
- Brian Clark, the Director of Veteran Programs at the University Park Campus
- Individuals in the Division of Undergraduate Studies, including:
 - Eric White, the Executive Director
 - Marie Lindherst, the Associate Director of DUS.
- Employees in the Admissions Office, including
 - Guoyang Lin, a Senior Administrative Data Analyst
 - Betty McKinley, an Admissions Counselor who is one of the primary contacts for veteran students
- Employees in the Office of Student Aid, including:
 - Sandy Coyle, the Director of Programs and Operations
 - Melissa Kunes, the Senior Director
 - Laura Garver, the Assistant Director in Application and Eligibility Services
 - Sharon Howell, the Director of Application and Eligibility Services
 - Carol Lewis, the Assistant Director for University Scholarships
- Individuals in Counseling and Psychological Services, including:
 - Dennis Heitzmann, the Director
 - Mary Anne Knapp, the Outreach and Consultation Coordinator
 - Ben Locke, the Assistant Director of Research and Technology
- A focus group of three student veterans

Penn State has developed policies and practices that are beneficial to student veterans. For example:

Veteran's Office

Penn State's Office of Veteran's Programs offers counseling, outreach, and support services for students. The office will assist veterans with items such as:

- Application and Certification of GI Bill benefits
- General discussions surrounding choice of major choice and post-degree employment options
- Admissions questions

The office also employs student veterans in work study functions to assist their fellow student veterans and provide support and a social environment.

Student Veteran's Organization

Penn State has an active student veteran's organization that was founded in 1969. The group has a website, consistent meeting times, and is widely publicized by the Office of Veterans Programs.

Current Institutional Practices

- Financial Aid
 - The office tries to offer a high level of service to all students

- Specifically for student veterans, Penn State tracks veteran benefits alongside other financial aid for which the student is eligible
- The office knows to refer students who identify as veterans but have not applied for benefits to the Office of Veterans Programs and generally the two offices work closely together to streamline the process for students as much as possible
- Penn State automatically considers veteran students to be independent, regardless of their age, which assists with applying for benefits and other aid
- The Financial Aid office will partner with other offices to facilitate a veteran's transition back into/out of Penn State when they have been called to active duty
 - The Financial Aid Office is responsible for contact the veteran with a letter instructing them on what steps need to be taken with relation to their financial aid
- Penn State has several scholarships specifically reserved for student veterans, and these funds can be transferred directly to student accounts.
- Penn State will up the number of students allowed to receive Yellow Ribbon benefits if the numbers reach the maximum and other students need coverage
- Registrar
 - Students called to active duty are allowed to receive partial withdrawals where they can complete some courses but not others, according to what they think they will be able to manage
 - The office has a point person specifically to deal with these cases
- Admissions
 - Veteran students are treated as adult students, regardless of their age, which means that they receive a more lenient admissions standard (e.g., the SAT is not required)
 - Admissions is currently working on creating a training program for staff focused on best practices for dealing with veteran students

Course Offerings

Penn State offers online courses through both its World Campus (purely online campus) and the departments. Penn State also offers hybrid courses which are popular for courses related to military interests.

Student Services

The registrar's office strives to accommodate students with disabilities by organizing classrooms to be accessible and suited to student needs.

Penn State's World Campus has a team specifically dedicated to the recruitment of veteran and military students. This team works with these students to move them into the institution, and reviews Penn State practices and policies to ensure the best environment possible for this population.

The Division of Undergraduate Studies at Penn State has a long history of dealing with student veterans. DUS assists undecided students with enrollment into degree granting programs and to work with incoming freshmen to help them settle on a course of study. DUS also helps students who want to change schools with the transition, and assists students who are admitted

provisionally (students with marginal academic backgrounds) who require more monitoring and help. The department also corrals and distributes information on academic information and advising to the university community at large. DUS connects students to representatives within the colleges who can further help them with credit transfer and degree planning.

Focus Group Findings

As part of the site visit, we conducted a focus group with three students currently enrolled at Penn State. Key findings related to:

Credit Transfer

Although students were not particularly upset by it, they noted that few credits from their military experience transferred into Penn State. One student primarily encountered issues with requesting transcripts from multiple institutions over the phone rather than being able to send in a signed request. This same student also had issues with transferring in some credits to his major area – he was informed that he had too many credits in the subject to select it as a major. This student ended up with primarily physical education credits.

Another student also received physical education credits, and a third received some credit for marksmanship only.

Funding

Students had different experiences with respect to GI Bill funding and other aspects of school financing. One student was unfamiliar with the financial aid process and applied for credit her first semester to pay off her tuition bill. She had felt pressured by Penn State to pay her tuition and been threatened with being dis-enrolled, which led to her taking out a high interest loan. The school also would not consider her a veteran until her service in the National Guard was officially over.

Another student qualified for GI Bill benefits but had trouble getting the money due to delays at the VA. This student had friends who also were not reimbursed the appropriate amount by the VA for their benefits.

A third student had difficulty finding housing accommodations that worked with his school schedule, so he had to rent an apartment early in order to ensure he had living space. However, he had benefited from having an excellent Education Officer on his base, which meant that his GI Bill application was submitted in plenty of time to have the funding when he began.

School Selection and Major Choice

All the students we spoke with had been interested in and/or attended other schools prior to enrolling at Penn State. No students in our focus group selected their major based on their military experience. One student had not intended to attend Penn State, but selected it because he was unable to transfer from the Pennsylvania National Guard to the Michigan National Guard, which a recruiter had told him he would be able to do. This student went into architecture – she was tempted to pursue something based on her experience with signals intelligence in the military, but she found she was not interested in her academic options in that field. Her advisor

initially steered her to engineering, but she became much more interested in architecture and transferred.

Another student moved around to various schools and settled at Penn State when he was assisted by the ROTC program with applying to the main campus. This student went into engineering, though he did not feel that his military experience influenced it. His philosophy was to pick the most challenging program possible at a high quality institution in order to get the most mileage out of his GI Bill benefits.

A third student went directly from high school into the Marine Corps and took courses at a variety of schools during his nearly eight years in service. This student decided to study history and political science. He was in combat engineering, which does not have a civilian job equivalent, so he initially began his higher education career in German and then transferred into his current major.

Climate

One student who was called to active duty during his time at Penn State found his professors to be extremely helpful and accommodating as were his classmates. Only one professor caused difficulties, which he felt were not overly significant. With respect to the overall climate, his impression was that Penn State as a campus and community is neither particularly veteran friendly nor unfriendly.

A second student had an issue with a professor who would not accommodate his registered disability. His disability became so severe that he needed to move from full time to part time, which began causing issues with engineering because the program was concerned about his ability to complete his prerequisites in a timely fashion. Because he had to drop his math class they wanted to remove him from the program, which caused him to go to Disability Services and register his disability for the first time. He then had to speak with the dean, who was unpleasant and accusatory about his reasons for dropping the course, although she did allow him to remain in engineering.

A student noted having issues with the ROTC program, which she found unwelcoming and condescending to her as a veteran—the program is run by students, who felt they outranked her because they were in officer training. She did not think this was because of her sex – male student veterans she knows had also been turned off by the program. She did feel that students might not understand what it was like to be in the military – she had initially enrolled in a women's studies course and had a discussion board assignment to discuss women in the military, which some classmates felt was placing the fight for freedom above equality, and which she felt was displaying ignorance.

A third student had not experienced discrimination, and generally felt like the reaction to his presence was positive. He felt that especially in his fields of history and political science his perspective was valued and he had professors who would ask him to speak about his experience and other professors who felt he had too much experience and would ask him to hold back on speaking so that students could draw their own conclusions.

Services

One student had utilized the veteran's office to obtain funding, made use of Disability Services, joined the student veteran's organization, and meets frequently with his adviser. This student had tried tutoring at Penn State but did not find the services to be helpful because the students were not permitted to help him work through his homework problems. Instead, he decided to utilize off-campus tutoring which actually assisted him with the homework and helped him prepare for tests. The only places he had to identify as a veteran was at Disability Services and the veteran's office.

Another student had only ever used the veteran's office to make sure his benefits were in order.

A third student noted that she had been having a very difficult time acclimating to being back at school as an adult, student veteran and went to see her advisor and had an emotional breakdown. She found her advisor was extremely helpful and supportive and encouraged her to stick it out.

Acculturation and Engagement

One student had only recently found out about the student veteran's organization and was excited to join, though she wished it had been more widely publicized. This student was heavily involved in the Society of Women Engineers prior to leaving for active duty. She has not rejoined because she felt overwhelmed when she returned, but she has since joined the Illuminating Engineering Society and is an officer in that organization and has used it as an opportunity to mentor and connect with other students, who tend to be younger.

Another student was heavily involved in the vet's organization as an officer and felt that it was one of the biggest attractions to Penn State because it was a built-in social group. This student had attended many other club meetings to see if he would like them, but ended up feeling strange being an older student in that environment. He thought it was analogous to the military, where you associate with peers of a similar rank and station – being an older student surrounded by undergrads felt uncomfortable in a social setting.

A third student was heavily involved as an officer in the vet's organization and also joined the adult learners program, which he noted also had a high proportion of student veterans. He felt that the benefit of these organizations was that they gave him the opportunity to engage with students who were his age, in similar classes, and knew what it was like to be an adult student.

All students expressed a level of discomfort with interacting with young undergraduates who seemed immature or inexperienced to them.

Interviews: Key Themes and Issues

A number of key issues related to student veterans came out of our staff interviews. These issues and themes are detailed below:

Credit Transfer and Articulation

Penn State does not transfer in a particularly large number of credits—typical credit transfers for student veterans are in physical education. To an extent, the number of credits transferred in depends upon the student's college and program—World Campus is seen as more proactive about granting credits for diverse experiences and trainings, whereas schools like engineering are

less likely to grant credits to students. In fact, it was through the efforts of World Campus staff that Penn State began to grant any credits based on students' MOS's. To an extent it can be undesirable for students to transfer in credits because it increases their standing, which in turn increases tuition based on credits that rarely satisfy major requirements. Credits are assigned generally so that students can have flexibility in how they are used—admissions brings in credits and the academic units assign them.

Staff generally felt that veterans were aware that Penn State is not known for granting a great deal of credit based on experience—the idea being that Penn State is more selective and is not an easy way to a degree. However, the situation has improved somewhat, and the Liberal Arts is beginning to accept more credits from ACE transcripts. Overall, though, the lack of credit transfer is still a frustrating issue for students coming in from the military.

One issue is that there can be a significant time lag between the estimate for credit transfer that students can receive online and the actual credit award given by Penn State. Other schools with which staff are familiar have faster turnaround times (some in one day). Penn State does accept CLEP and DANTES credits.

Funding

The financial aid office tends to discourage veterans from taking out loans because their tuition and other fees are covered by the GI Bill and the office does not want to encourage needless debt. At the start of the new GI Bill there were issues getting students money from the VA and covering living expenses, etc., but these have since been largely ironed out. Staff have noticed that requesting and obtaining funding during the transition to college seems to be where students have the most difficulty. During the difficult transition to the new bill, no one knew what the new state tuition cap for the bill would be, so the Office of Veteran Programs completed two rounds of certifications to ensure that students would receive coverage.

The new GI Bill has been confusing for some veterans because everything is covered and they were used to thinking about benefits in terms of a limited dollar amount, which is no longer the case. Thus, staff feel the VA needs to improve its ability to explain to veterans what they are eligible for and how the system works. Prior to the new bill, most stressors staff encountered with veterans were financial, and the new bill has relieved a lot of that.

Recruiting

To increase Penn State's competitiveness in online education the World Campus offers an undergraduate tuition grant-in-aid available to active military and drilling reservists using Federal Tuition Assistance (TA). The grant prices undergraduate online tuition at \$299 per credit hour instead of the normal \$480 plus rate, and when used with the \$250 per credit limit of TA, allows the student to attend with only \$49 out of pocket for per credit. This grant has the additional benefit of attracting those students back when they are veterans and still have their GI Bill benefits to spend on additional education. World Campus also goes to the bases to meet with education officers, invites them to webinars, and participates in symposia for military educators, among other initiatives. The aim is to bring students into Penn State and get them working towards a degree prior to the start of their GI Bill benefits so that they use their active duty benefits at Penn State purposefully.

From a general institutional perspective, the Office of Veteran Programs does some limited recruiting by contacting all recently discharged Pennsylvania veterans through a list provided by the Department of Veterans Administration. The office also checks incoming applications to see any students who have identified themselves as veterans in their application. The office reaches out to these prospective students, and also meets with walk-ins who want information, among other services.

Separation from the Armed Forces

One challenge Penn State has encountered is finding the right time to reach out to student veterans. The military currently does not really help servicemembers think about what they will do after they deactivate, and often the transition happens rapidly and with little planning. Penn State staff would like to see servicemembers receive more information on their education benefits and degree planning both in and after the military. This would help veterans take courses that move them towards a degree, and might assist veterans with selecting one institution that will work for them rather than bouncing around to multiple schools.

Acculturation

Counseling and Psychological Services has noted that veteran issues seem to be under-reported, but has seen cases of PTSD, relationship issues, ADHD, and learning problems among veteran students. Based on CAPS staff experience it appears that around 30-50% of veterans have been affected in some way by their military service. Some of this may be because veterans lack a stable environment from which to take on the academic rigor of Penn State. Additionally, veterans seem to be extremely sensitive to perceived slights. CAPS has tried to offer group sessions but there is a stigma attached to seeking counseling, and veterans seeking future government employment do not want to have a record of seeing someone at CAPS. CAPS does have a resource section of their website specifically for student veterans.

World Campus has seen that veterans tend to arrive with more physical and psychological issues. Things like PTSD, TBI, and other issues that require psychological services have been seen. World Campus is able to assist on the physical disability side – they have a director of access who is responsible for assisting all adult learners with accommodations for physical disabilities and working with the design group to ensure new courses are usable by students with physical disabilities. CAPS is not able to assist distance learners due to certification requirements, so World Campus is trying to figure out a way to provide psychological services to students. At the moment, they connect students with providers in their local community or at the VA.

Counselors in the Office of Veteran Programs all hold graduate degrees in counseling and are thus able to provide general counseling and assistance to students. If students require more specific treatment or additional assistance they are referred to other offices at Penn State. Students coming into this office have presented various issues, with part of the counseling challenge being the wide range of individuals requiring support – from recently discharged veterans to older veterans, and including dependents students using transferred benefit entitlement. The office's goal is to ensure that students feel secure and comfortable and that they are talking to a staff member who understands what they are going through – all of the counselors are veterans themselves. Recently, the office has seen many students who have been

so focused on getting out of the service and getting to school that they are unprepared for the reality of it when they arrive, which can be compounded by issues at home and lingering issues from their time in service. Students are coming from the most controlled to the least controlled experience of their lives, and the office is aware that it can be a serious challenge.

Preparedness for College-level Work

Penn State staff have seen a wide range of preparedness among student veterans. Because many of them have been out of school for a long time, it can be extremely difficult to come back to academia. But staff have found that the ages, needs, and preparation of veteran students varies greatly, overall. Veterans also arrive with different levels of experience with school—some have a great deal from multiple institutions, some have very little, others have a lot of technical training from their MOS.

World Campus has found that veterans tend to perform better than their other students because they are more mature, motivated, and goal-oriented. However, the military outreach coordinator felt that the military could do a great service for veterans by adding more theoretical training to their technical courses—this would enable universities to transfer in more credits for veterans and would ultimately save taxpayer money.

The veteran's office sees many students who are unprepared for the rigor of Penn State and have been out of school for a long time, which leads to struggles with calculus, general academics, etc.

The Department of Undergraduate Studies (DUS) has found that Penn State has a different standard of "readiness" than many other schools—math readiness in engineering, for example, means being prepared for calculus.

Enrollment and Tracking

Penn State's World Campus enrolls a large number of active duty and veteran students. The MBA program has the largest concentration of student veterans, which the military outreach staff member we spoke with felt was due to their desire to obtain civilian employment after separating from the military. Veterans also gravitate towards the Law and Society program if they have ambitions to attend law school, and the master's in Systems Engineering is also popular with this student group because it aligns well with their technical experience in the military while preparing them for civilian employment. This staff member felt that because veteran students are adult learners they are well suited to distance education because it is convenient and flexible.

However, the World Campus representative felt that enrollments among veterans and active duty servicemembers would be improved if Penn State had more flexible entry points to programs—having three per year (beginning at each semester) is not sufficient. Many programs with which Penn State is competing allow students to enter on a weekly basis, which is much more flexible and appealing to students who want to start right away.

At the main campus, it appears that veterans tend to cluster in disciplines where they felt there would be job opportunities (e.g., engineering and business). Overall, veteran student enrollment at Penn State has increased dramatically, probably 25% since 2009/2010 alone. Much of this growth has come from the World Campus division, and overall numbers jumped from 2,000 to 3,000 veterans in one year.

*San Diego City College**Site Visit*

Our team conducted a site visit to SDCC on November 3-5, 2010 and met with:

- The Chair of the Counseling Department, Cathi Lopez
- The Learning Center Coordinator, Lance Soukhaseum
- The Math Center Coordinator, David Kader
- The English Center Coordinator, Chris Baron
- A Learning Disability Specialist within SDCC's Disability Support Programs and Services office, Christina Gibbs
- The Director of Off Campus Programs, Jeanie Tyler
- The SDCC Districts Coordinator for Military Educational Programs, Annette Ragsdale
- The Coordinator of Adult Counseling, Leslie Easton
- An intern in the Mental Health Services office, Teresa Banko
- The certifying official for VA benefits/admissions technician of SDCC, Belinda Harris
- An Admissions and Records Supervisor, Lou Humphries
- The Director of Military Programs, Lisa Curtain
- The Director of Financial Aid, Greg Sanchez
- The Department Chair of Engineering and Technology, Fred Julian
- A focus group of three student veterans attending SDCC

SDCC has developed policies and practices that are beneficial to student veterans. For example:

General

- SDCC is an SOC school as well as SOC MCRD, SOC NAV, and SOC Coast
- SDCC's Adult Counseling office makes an effort to recruit employees and student interns who have military ties
 - This office has almost 500 veterans working for it in mostly full-time positions. Employees in these areas often do contract training on the bases teaching standard military courses
- SDCC's student services groups (e.g., health, mental health, student services) began a task force on veterans two years ago in light of the new GI Bill and the anticipated influx of student veterans
 - The task force sought to identify veteran student needs and how to best accommodate those needs while respecting their unique attributes and desires
- The college is opening a branch of the Student Veterans of America organization
- In 2010, SDCC hosted its first Veterans Day event ever
- Each year in the early summer, SDCC takes over a field and brings in homeless veterans from all over the San Diego area to offer haircuts, medical attention, assistance in procuring access to services, etc.

Veteran's Certifying Office

SDCC has a veteran's certifying representative in its Admissions & Records office

- This is primarily due to space restrictions at the college
- The veteran's representative coordinates with counseling to ensure that veterans are provided assistance if they need it, offers general information regarding VA benefits, gives information on how students can pay tuition and fees, etc.
- This year, the representative has been servicing over 700 veteran students
- In order to better advocate for student veterans, employees of the veteran's office will attend conferences to voice opinions on concerns and issues facing this student population, as well as problems they encounter with the GI Bill
- The office employs veteran students in its work study positions through the VA program
- The office offers some outreach by sending employees to the bases to discuss SDCC
- For students who are interested in changing majors, the office will send students to the counseling department to make sure they know exactly what they want to do, and then the office will work with veterans to make sure the new major is an approved major for receipt of benefits

Counseling

- The general counseling office at SDCC serves as the first or second point of contact for students matriculating at SDCC. The office offers assessments in math and English, new student orientations, educational planning, career exploration, etc. For veteran students during the registration period, the office will send an employee to SDCC's Veteran's Office so that veteran students do not have to wait in the general line with all other students. Veterans are also given priority for general counseling appointments once their prior transcripts have been evaluated
- The district provides office hours and advising on bases and naval installations
 - SDCC's goal in advising on base is providing students with all the services that they would receive if they came on campus. Therefore, base advisers are expected to perform a wide variety of functions such as assisting with registration, curriculum advising, catalogue interpretation, etc.

Academic Success Center

SDCC has developed a comprehensive Academic Success Center offering academic support services to students from one central location.

Course Offerings

SDCC offers a host of course options beneficial to nontraditional students such as veterans. For example:

- SDCC offers early morning classes beginning as early as 6:50am
- SDCC offers Saturday classes at a site near the Naval base

- Students enrolled at SDCC can take courses at any San Diego community college site that is convenient for them
- SDCC has an extensive set of self-paced online courses. These courses can last for a few weeks to over a year, depending on the student's desired rate of completion.
- SDCC has tried to offer short courses in Military Electronics Technology in order to bridge the gap between what students experienced in military training and courses at SDCC. However, these offerings have not been particularly successful because students were not prepared mathematically or theoretically for the engineering component of these courses

SDCC has implemented refresher courses worth one unit that are open entry and open exit. Students can use these courses to prepare for an exam or bring themselves back up to speed in certain topic areas (such as pre-algebra through pre-calculus), the courses are inexpensive, and there is no pressure.

- Because these courses typically are not reimbursed for veterans using GI Bill benefits (because the courses may not fall within a clear timeframe), SDCC requires incoming students to these courses to do an orientation where they explicitly explain that these courses may not be reimbursed and that veterans will probably have to pay for them out of pocket

SDCC also offers some courses that are more closely tailored to students' military experience:

- SDCC has tried to offer short courses in Military Electronics Technology in order to bridge the gap between what students experienced in military training and courses at SDCC. However, these offerings have not been particularly successful because students were not prepared mathematically or theoretically for the engineering component of these courses

SDCC has developed extensive off-campus course offerings in affiliation with the bases:

- SDCC has created a position for a Director of Off Campus Programs who oversees, coordinates, and plans credits that are made available to students off campus and course offerings through the bases in the area
- SDCC offers evening classes on the bases, generally transfer level, general education courses in eight week sessions back to back
- Hypothetically students could complete an Associate of Arts or other Liberal Arts or Social Sciences degree on base, but typical enrollment patterns are students who take one or two classes through the college and then take other courses at University of Phoenix, SDSU, or other schools—the appeal of SDCC is the ability to complete lower division courses for only \$26 to save their benefits
- Due to resource and training limitations, SDCC was asked to help develop a program called “Boost” aimed at raising the academic preparation and achievement of African American servicemembers, primarily in English and math. The program is still in existence, has begun to serve international servicemembers, and has seen a great deal of success

- Similarly, SDCC has been asked to provide some trainings because when the military tried to run college level courses itself, students did not end up receiving credit for them from higher education institutions. For example, SDCC has assumed responsibility for most engineering training, as well as the Navy's Gun School

SDCC has an open university agreement with San Diego State University so that SDCC and SDSU students can take classes (when seats are available) at either institution by paying an extended studies fee while receiving credit at their home institution.

Tuition and Fees

The San Diego community college district does not participate in the Yellow Ribbon program because active duty military and those stationed in California are entitled to a waiver of state fees. Active duty students pay approximately \$26 per credit hour.

SDCC partnered with a military foundation to create a number of scholarships for which veterans will be eligible.

Focus Group Findings

As part of the site visit, we conducted a focus group with three students currently enrolled at SDCC. Key findings related to:

Credit Transfer and Articulation

Students seemed generally satisfied with the number of transfer credits they were able to bring in and understood that transferring in too many credits would count not necessarily be beneficial because too many elective credits transferred in makes it difficult to fill a full courseload with items that count towards a student major (and thus qualify for GI Bill benefits). Two students had a large number of online credits and other postsecondary credits from schools besides SDCC.

One veteran who had taken a large number of online classes felt that the quality of the education at the school (Ashford University) was extremely low because the courses were far too easy. Our other veteran participants seemed to agree with this assessment.

Advising and Course Offerings

Students were extremely satisfied with the academic counseling they received at SDCC. Counselors seemed to care, to be effective and efficient, and extremely knowledgeable.

Preparation

Students noted that they were seeking remedial assistance with some subjects, such as mathematics. One was frustrated that SDCC charged approximately \$30 for remedial education (which is not covered by the GI Bill) when a local veteran's center offers free courses. However, another student who participated in SDCC's remedial courses expressed appreciation for them because SDCC's courses were effective at catching students up and placing them on even footing with other students.

Climate

Students felt that because they were at a community college where the age range of students varies widely they were not singled out based on their age or appearance. One student enjoyed the presence of younger peers because they inspired him to perform better and push himself.

One student noted that faculty members seem to treat them more respectfully than they did undergrads and to give them more attention as adult learners. Another student felt this was because professors could tell that adult learners take the curriculum more seriously.

Students appreciated that SDCC offers classes on bases and off campus, especially because classes on the base gave them access to a student body of similar age and experience. SDCC also offers priority registration to veterans, which was one factor that made them feel that the environment was strongly veteran friendly.

Separation from Military

Two students found the transition to college to be challenging:

- Both students went straight to school from their military service
- One student had some issues with GI Bill benefit timing
- Another student felt that having transitional classes during his time on active duty would have helped him feel better prepared for college upon enrollment and was struggling with the transition to college coursework

Major Choice

One student made an initial major selection of Criminal Justice based on military experience but later decided that it was not a good fit and transitioned to another course of study. Neither of the other two vets selected their major based on military experience.

Institutional Services

Students felt that having the veteran's office available to them as part of SDCC was very helpful and were pleased with the assistance they received from it.

Veterans appreciated the ability to apply and enroll online to SDCC. However, one student noted that SDCC was limited in its ability to offer courses due to overcrowding and understaffing, which made degree completion on that campus difficult.

However, students expressed frustration with the financial aid processes at SDCC, citing:

- Long lines
- Missing documents
- Hang-ups and other issues communicating via phone
- Excessive paperwork

Other issues students identified:

- Ability to access classes on bases after leaving the military – if base clearance expires but a student is still enrolled in a course, getting onto base to complete the class can be difficult
- Lack of a veteran- or military-specific orientation
 - Veterans have extra paperwork and rules that they must complete and observe, which makes their transition to school more complicated
 - Leads to an over-reliance on SDCC's veteran's office, which is over-capacity as is
- Understaffing in SDCC offices such as financial aid and the veteran's office leads to long delays and frustration
- SDCC's website is anachronistic and difficult to navigate. Students thought a web space for veterans and a general update to the web presence of SDCC would be beneficial

Acculturation and Engagement

Students were not particularly interested in participating in student organizations, and were not concerned by, or were unaware of, the lack of a student veterans organization on campus.

Reasons for this included:

- Too many competing demands, especially when just beginning school
- Focus on academics and general disinterest in integrating into the campus community

Students did identify ways in which SDCC might better cater to their needs and interests:

- The creation of a veteran- or military-specific space on campus such as a study lounge
- A mailing list or some other kind of social calendar geared towards student veterans

One student noted that volunteering on campus had been an excellent way to forge connections and transition into academic life at the institution.

Interviews: Key Themes and Issues

Credit Transfer and Articulation

Transcript evaluations are conducted centrally at the district office. This central evaluation enables the San Diego community colleges to provide students a digital copy of their credit evaluation through the district's online student services applications. This digitization also allows counselors to easily access the evaluation in order to craft education plans for students that best take advantage of their prior coursework and experience. Finally, this setup allows the SDCC veteran's office to directly view student coursework to ensure that it meets degree requirements so that students can continue to access GI Bill benefits.

Typical credit transfer for veterans based on their military experience is two credits for physical education and two credits for health. Veterans typically do not receive any credit from their SMART transcripts. Staff at SDCC feel the low number of credits transferred in is primarily due to the highly specific nature of military training.

Specifically with respect to engineering, students are able to petition for additional review if

credits do not transfer in (which they typically do not). This may involve taking an exam to pass out of classes.

One of the major issues identified by an SDCC staff member was this lack of credit transfer to community colleges for veterans due to lack of faculty expertise on what might qualify for transfer, or inadequate or inexperienced staff responsible for conducting such evaluations

Funding

SDCC has found that the most important issue to veterans by far is funding. However, the requirement that veterans declare a major after a certain time period in order to receive funding creates issues because it can lead to veterans selecting a course of study that does not necessarily meet their needs. Furthermore, the benefits requirement that veterans enroll for twelve course credits in order to receive payments can be a burden to the students and frustrate them.

SDCC has the general sense that the post-9/11 GI Bill is enticing students to return to school, especially to community colleges because they are local and not terribly expensive.

To process Chapter 33 benefits, SDCC initially having students pay tuition up front and then receive reimbursement, then transitioned to not charging students and waiting for the money from the VA, but because of delays at the VA SDCC now charges students some money up front.

Acculturation and Institutional Accommodation

Veteran students at SDCC have not typically been interested in participating in a student veteran's organization. Staff felt this might be due to students being concerned with other issues, not having enough time to participate on top of other job and family responsibilities, not wanting to have to think about military work after having just been released (e.g. wanting to move on with their lives)

To better assist students with receiving benefits, all counselors at SDCC go through an orientation that helps them understand VA criteria and procedures. However, there are not academic counselors that specialize in working with veteran students. SDCC has also formed an ad hoc group focused on veterans issues that consults with offices across campus to help determine the best ways to serve them. For example, SDCC is considering creating a veteran-specific study room.

Staff responsible for orientation will assign liaisons to the veteran's office at SDCC to notify them when there are issues with incoming students. One staff member in academic counseling worked with staff in the veteran's office to develop a handbook for counselors working with student veterans to help navigate the rules and regulations that these students must follow.

Staff responsible for managing student disabilities and learning services work with the veterans office, the VA, and vocational rehab staff to assist students. However, due to its size and resources, the mental health services on campus are largely for non-insured students.

Faculty are well-versed in where to send students who seem to be having academic, mental, or other problems. Faculty want students to succeed and are good about referring students into

support services.

Physical, learning, and emotional disabilities often overlap such that offices will work with students on multiple issues. SDCC specifically has seen a fair number of veteran students with physical disabilities and a much larger number with TBI or PTSD. Vets also seem to have a larger proportion of adjustment issues when compared to the rest of SDCC's student population. Many veterans come in feeling overwhelmed, stressed, or unable to cope with relationship issues. For veterans who have issues in class, this often involves an angry outburst, generally when an open class discussion is not properly managed. Veterans can also suffer from panic attacks.

The Adult Counseling Office offers flex trainings to faculty to help them identify potential issues in the classroom faced by student veterans, how their needs are different, how to structure the environment to be veteran friendly, etc. The office will, for example, try to help faculty understand that certain topics need to be covered in a sensitive manner and be considerate about how a veteran might react. The office will also work with student health services, academic counseling, and disability services to work back and forth on student cases.

SDCC staff who have spoken with student veterans about issues they face noted several issues based on these conversations and their experiences:

- Student veterans often are returning to school from a long period of absence and may feel inadequate
- Veterans returning to the classroom identified issues of ADD, too much adrenaline in their system to focus, having trouble staying on track, picking up effective study habits, etc.
- Some thought it would be helpful to enter school as a cohort, possibly organized by field or discipline in order to have a clear support base and develop a sense of being on a team
- Others noted the desirability of flexible schedules so that they could handle doctors appointments, finding time to spend with family, etc.
- Computer skills were identified as problematic and an area in which older student veterans felt they could use some assistance
- Veterans expressed a preference for residential rather than distance learning because it made them feel more like they were a part of something
 - However, veterans at SDCC interviewed by staff noted that they would like more direct outreach and marketing to make them aware of activities and campus events in which they might participate. Students suggested something like a veteran's center where they could sit, study, socialize, etc.
- Student services was not seen as particularly veteran friendly due to its focus on traditional education. Staff felt that a counselor who really understands transcripts and course needs would be helpful, and were frustrated by the credit articulation process. While staff expressed satisfaction to staff over the counseling they received on base, they felt counseling and advocates should be brought to the campuses as well
 - A one stop shop for services was one suggestion as a way to improve their situation on campus
- Staff felt that some faculty were not veteran friendly and wanted some way to identify faculty that were so that those faculty could intervene and assist students when their

colleagues were being difficult about issues related to deployment or other veteran student issues

Issues with the VA

Staff at SDCC have noted that veterans will come to the college offices because they do not want to interface with the VA, either because they do not want their visit to be on the record or they do not want to deal with the red tape. To build enough trust with students to get them to go to the VA, SDCC staff will sometimes have to meet with the student repeatedly to build enough rapport to convince them to transition in to care at the VA or a veteran's center.

Disability services will reach out to the VA to assist students with the verification of disabilities, but obtaining information can be difficult. Staff responsible for benefit certification have noted similar issues—the answer received by staff depends upon the person with whom they speak at the VA, which is similarly true for veteran students interacting with the VA.

The state approving agency has also caused difficulties at SDCC because staff cuts within that office mean that they are not able to quickly respond to requests and many of the employees are new and inexperienced.

Preparedness for Engineering

One faculty member in engineering noted that while veterans are solid on applied knowledge, they do not have the theoretical and analytical background to be well-prepared for engineering at the postsecondary level. Additionally, fewer vets may be going into engineering or coming back because there have recently not been enough students interested in the military-related engineering technology courses. For those vets that do enroll in engineering, program selection at SDCC appears to be based on the vets' MOS and interest as opposed to a perception of veteran-oriented programs within the department.

However, SDCC has found that veterans tend to be more disciplined and, if they start from the beginning of the program, their discipline will carry them through and be evident in their coursework.

SDCC does not have a large veteran population in its engineering and technology courses—they might compose around 5-10% of the department. On top of this limited number, there tend to be high attrition rates in these courses—approximately 50% of students in electronics, technical algebra, etc. do not persist to the end of the course. The attrition rate for veterans, however, seems to be similar to that of other students. One faculty member felt that this was because of the greater sense of discipline that veterans have: even though they face outside commitments and challenges, they are very committed to their coursework.

In 2009/2010, SDCC's engineering department tried to work with SDSU to encourage veterans to transfer to a four-year institution. However, there was little student interest, and while the faculty and administration at SDCC discussed how to bring veterans up to speed on math and science so that they would be prepared academically to transfer to a four-year engineering program, the college ultimately decided to push their military-focused engineering technology program and saw little success.

Major Choice

SDCC has found that many veterans come in wanting to build on experiences they had in the military and that they tend to be a bit more focused than other students in terms of having a clear major in mind (though many veterans will change their major repeatedly).

Enrollment and Tracking

For veterans and active duty military who take classes on the bases, SDCC conducts surveys designed to find out their funding sources, military status, etc. However, if veterans do not come to an on-base branch there is little available information about whether or not students are military or veterans. Most on-base students are active duty military or family members of active duty military.

With respect to veterans being called to active duty, SDCC will help students withdraw and work with faculty to find a solution for the student.

Currently, some SDCC offices (such as adult counseling) primarily track students by hand, which makes it very difficult to identify or follow veteran students. If students do not self-identify up front as being a veteran it is unlikely that their record will be updated subsequently.

San Diego State University

Grant Focus

San Diego State University began its NSF EEC grant on October 1, 2009, focused on developing articulation and credit transfer strategies for veteran students seeking to transition to undergraduate engineering:

This engineering education award to San Diego State University will develop innovative articulation and credit transfer methods among community colleges, military training and four year colleges. This will assist in streamlining the transition of veteran students from the military to completion of undergraduate degrees in engineering. The engineering degree pathways will be customized to the needs and strengths of veterans. The results will be disseminated widely and also will be presented on the web, at technical conferences and published in professional journals. The project is expected to assist veterans' transition to civilian life and to enhance the number of students who complete engineering degrees and are ready to fill engineering jobs or start new high tech businesses (SDSU Grant Abstract, 2009).

SDSU has also received a subsequent grant, begun on October 1, 2010 to develop partnerships with community colleges and develop a model for moving student veterans successfully from community colleges to four-year schools:

This engineering education research project seeks to establish a support program for student veterans at San Diego State University in partnership with two local community colleges. A key element of the SERVICE project is to define a clear pathway for veterans to complete engineering degrees. The program seeks to engage industrial partners to offer internships to veterans throughout their college careers. By offering math courses to service members before they arrive at colleges, the project seeks to minimize some of the major hurdles to veterans' success in college.

The broader significance and importance of this project will be to develop a model for broad participation of veterans that recruits and retains them in college and transitions them to engineering careers. Should the project demonstrate the coalition of partner schools is able to successfully transition student veterans to graduation via the effective use of internship programs, this pilot will serve as a model that can be readily implemented by other university - community college partnerships (SDSU Grant Abstract, 2010).

Site Visit

Our team conducted a site visit to SDSU on November 4 and 5, 2010 and met with:

- The President of SDSU, Stephen Weber
- The Dean of Engineering, David Hayhurst
- Staff in the Veterans Center, including:
 - The Veterans Center Director, Joan Putnam
 - The Assistant Director of the Veterans Center, Nathaniel Donnelly
- The Director of Development, Gwen Notestine
- A VA Employee and the VetSuccess Coordinator, Natacia Cordle
- The Director of Career Services, James Tarbox
- An employee in Counseling and Psychological Services, Sandy Jorgenson Funk
- Individuals working on the grant:
 - Alyson Lighthart
 - Dave Johnson
- A staff member working in Admissions as a credit evaluator, Cassie Steadman
- A focus group of four student veterans

SDSU has made significant efforts to attract and retain veteran students. SDSU's grant-specific goals were to:

- Determine the feasibility of leveraging military training in college
- Speed time to degree

- Develop a universal plan for evaluating engineering degree credits
 - SDSU found 980 potential course articulations

In conjunction with the grant, SDSU put together several focus groups that included SDCC, the College of Business, extended studies, and other groups to be looking into what issues occur when institutions try to recruit and retain veterans in engineering. From their grant preparation efforts, SDSU found:

- Their school had a population of approximately 1,000 veterans, 174 of whom were in engineering
 - Of those students in engineering, many fall into civil, electrical, and mechanical engineering
 - They also found many veterans in the master's and doctorate degree programs at UCSC
- Of the active duty troops SDSU investigated, most had high school diplomas or GEDs, most had some amount of college work, and all officers had bachelor's degrees.
- SDSU found five things that should be incorporated in grant programs focused on recruiting, retaining, and graduating veterans:
 - Marketing research: veterans do not receive enough good information up front, nor do they understand the transition from their military occupation to a career outside of the military. Part of this strategy involves:
 - Developing partnerships with companies interested in hiring veterans
 - Developing connections between active duty troops and current student veteran engineers
 - Training in calculus: this needs to be provided before veterans leave the military
 - SDSU has a second grant to deal with this in part, and is using funding to run pre-calculus and calculus classes in conjunction with SDCC for veterans even if minimum class seats are not filled
 - Evaluating military training in the context of academic credit
 - Implementing a veterans service program geared at creating an environment for success by teaching veterans how to become students
 - Creating pathways to careers
 - This constitutes part of SDSU's second grant, and SDSU has plans in place to form an advisory group to transition NSF grant funding to permanent institutional funding

SDSU itself has developed policies and practices that are beneficial to student veterans. As noted, SDSU is a large, public university and has leveraged its structure to benefit veteran students. For example:

- SDSU worked to develop partnerships with external industry, especially the defense industry, to find jobs for veteran students upon graduation
- SDSU offered the military a directed admissions option where commanding officers could appoint students to attend. The same offer was made to the navy, and the program was so successful it was implemented across the state system
- SDSU has a representative from the VA work on campus

- SDSU formed a campus-wide committee to address ongoing issues relevant to veteran students
- SDSU has a veteran-specific area of their website to provide them with information about the issues they may face and the support services that are available to them
- SDSU has a scholarship available to veterans for \$1,000 granted based on an application essay
- SDSU offers priority registration to student veterans beginning in their second semester after they have been identified
- SDSU has implemented a new coding system to better track student veterans and active duty servicemembers that allows them to tell what specific benefits they receive, what percentage of benefits they receive, their service branch, etc.

Veteran-Specific Engagement Strategies

- SDSU has an active student veterans organization that interfaces with administration to offer a voice on veterans needs and experiences at SDSU
- SDSU created a veterans house from an old fraternity which houses current student veterans and serves as a social gathering place for other veterans and ROTC students
 - The house has consistently been over-filled since shortly after SDSU created it
 - The house is technically a privately run apartment complex
 - The student veterans organization is run out of the house
- SDSU's veterans office has a work study program so that current student veterans can mentor one another

SDSU's Veterans Center

- The Veterans Center has a student lounge to facilitate camaraderie
- The center is highly involved in outreach at military bases and sends staff to resource and career fairs
- The center interfaces with outside organizations and businesses
- The center serves as an information resource for students about events on campus
- The center offers a military transition class for one credit
 - The course brings different departments in to speak with students or has students go and visit other offices
- The center actively participates in campus committees geared at gathering information to improve their services
- Most questions the center answers for students relate to GI Bill benefits
- The center will speak with prospective students who are still in the military to fill them in on life and academics at SDSU
 - The center has a military liaison officer from enrollment services who is also affiliated with the center specifically to assist with admissions and prospective students
- The center conducts orientations on a semester basis for incoming students
- The center has an employee working at Camp Pendleton affiliated with the Wounded Warrior battalion to assist them with transitioning to school

- The center participates in a campus-wide troops to college committee that has been in place for two years
 - The committee is a collaboration among disability services, counseling and psychological services, career services, and the center
 - It meets approximately twice a semester to share information and determine ways to improve services and promote communication among the departments
- The VA employee affiliated with the center will accept referrals from the center and will also refer students to university or community services, as appropriate
 - The rep also hosts VA benefits workshops, employment workshops, career fairs specifically for veterans, information on health care, etc.
- The veterans centers across the CSU campuses have a monthly conference call to share events, receive information, and move forward on initiatives
- The center accepts interns from other institutions outside of the CSU
- The center's vocational rehabilitation counselor assists students with degree planning for future employment and obtaining work experience prior to graduation
- The center takes as one of its primary goals the creation of a community for student veterans

Relationship with SDCC

SDCC and SDSU have worked to develop a cooperative relationship due to their mutual focus on veteran student support and an interest in transitioning students from two-year to four-year institutions.

Focus Group Findings

After the site visit, we conducted a focus group remotely with four student veterans currently attending SDSU.

School Selection

One student noted that he had selected SDSU after looking for a school in the area and finding out that it had a reputation for being veteran-friendly. Another student did not know SDSU's reputation but selected it due to its proximity to where he was living at the time.

Use of Services

The student veteran's organization was popular amongst focus group members:

- One student noted that he found out about SDSU's veterans programs through his involvement with the organization at his community college and became involved with SDSU's branch when he enrolled
- One student noted that his only student activity other than work study was participating in the organization

Climate

One student contrasted the supportive, welcoming environment at SDSU to that of his previous college where a professor attacked him for being a veteran. Another student noted having nothing but positive experiences at SDSU, especially in comparison to what he heard from friends who attended other schools and had to deal with hostile professors.

Separation from Military

One student who began school immediately after completing his service obligations noted that this was primarily a financial decision so that he could continue to collect a paycheck. This student had almost dropped out of high school and did not feel prepared to succeed in college. However, the college experience went much better than he anticipated and he has begun considering a master's degree as a result of his positive undergraduate experiences. This student felt that the adjustment went smoothly primarily because he found college to be much easier than the military. However, he still noted that it took a long time to move back into the civilian swing of things after serving in the military.

One student waited until 1.5 years after retiring from the military to begin school, which he felt gave him time to adjust to civilian life. However, adjusting to working full time and then having to study for school was difficult.

A third student felt that the biggest challenge in separating from the military was the pay cut, especially when having to support a family.

Credit Transfer and Articulation

One student received only approximately seven credit units for seven years of military service when he began community college, which he found upsetting. This student had also been told in the service that he would receive much more college credit than he did. However, because SDSU had more degree programs and courses he received significantly more credit when he enrolled for his bachelor's degree.

Another student had not attempted to receive credit for any military experience.

A third student only received transfer credit for other college classes and approximately six credits for military service towards electives. A fourth student had the same experience, receiving only a few elective credits for military service.

Benefits

One student was still on Chapter 30 benefits and had not switched over to the new GI Bill after hearing that many students had had issues with the VA and the new GI Bill.

Another student who switched to the new GI Bill in September 2010 had a positive, efficient experience. However, this student had also heard horror stories from other veterans about long delays on the VA side in the previous year.

A third student did have a 15 month delay in benefits receipt in 2009 and had to use an advance loan from the VA until the GI Bill funds came through. This student's 2010 benefits also came in late, but not to the same degree as 2009.

The fourth student had the same experience with long delays in benefits receipt in 2009.

All four students noted that without the GI Bill benefits they would not be able to attend school. They cited various reasons, including:

- The cost of living in San Diego
- The difficulty of having to juggle work with school
- The motivation of having school as their income
- The incentive of joining the military to receive the GI Bill benefits
- The cost of supporting a family while trying to pay for school would be too great

Major Selection

One student selected history because it was his favorite subject in high school. Another student who selected history did so because he generally enjoyed it and because he wanted to do something different from what he did when he was in the military. This student noted that he heard from several veterans doing engineering that they wished they had also pursued a history major, primarily because the classes were difficult and the program had demanding professors.

A third student selected environmental health because it was related to the student's military experience.

The fourth student selected public administration without a clear understanding of the reason, other than having worked previously in government.

Preparation for College-Level Work

Students in the focus group felt that they were generally better prepared for college-level work than traditional undergraduates for several reasons:

- Greater discipline due to time working in a demanding field
- Life experience from being older
- Higher maturity and responsibility levels
- College, or any subsequent occupation, tends to be easier than the military
- Prior college experience

However, one student noted that having to juggle having a family and studying made the process of going to school a real challenge.

Engagement

The student veteran's organization was generally felt to be a useful and enjoyable engagement opportunity:

- One student had served as the VP of Camaraderie and felt that it had been an excellent opportunity to get to know other veteran students, improve the student's social life, and lessen feelings of isolation
- Another student did not have enough time outside of school, family, and work study to participate

- A third student had only recently joined the organization
- Another student had held positions at both SDSU and another community college in the veteran's organization and felt it had been a valuable opportunity to get to know other veterans and created chances to form a social group with peers rather than other undergraduates who are too young, or have too little in common, with veteran students

Interviews: Key Themes and Issues

Several issues stood out from our interviews with various offices at SDSU.

Credit Transfer and Articulation

Credit transfer and articulation was one of the most discussed issues in our interviews at SDSU due to their NSF grant focus on the topic. Interviewees noted several important factors to consider with relation to this topic:

- Processing veterans properly is important to avoid making them do redundant work, so SDSU is highly concerned with understanding the content of their previous training, what they learned in service, and what content they are missing coming into school
- Vets come to SDSU having consistently been told by the military that all their work would count for college
 - In reality, most credits that transfer in are for physical education
- As a result of these forced redundancies SDSU has noticed that some students select a different major in order to avoid having to take courses that contain information they already know from their military experience
- SDSU itself has the regulations and guidelines from ACE but cannot, as an institution, decide what is transferable because the faculty have to get on board and SDSU would like to have the entire system agree on articulation guidelines
- Employees felt that it would be highly beneficial to have staff who could go and work directly with local community colleges to develop pathways and articulation agreements to move veterans at the two-year level to four-year schools
- Employees also thought having a dedicated credit evaluator for veteran students would be helpful
- SDSU makes a sincere effort to grant general education credit for military training and experience and encourages faculty to grant in-major credit where possible

Specifically related to their grant work, SDSU has found that:

- The Marine Corps uses different words to describe engineering than the words professors and universities use, which required the development of crosswalks for terminology
- Each unit of military training does not usually have an explicit connection to university coursework
- The rigor of military training and coursework is unclear, and such courses are taught by active duty servicemembers, who are typically not trained teachers
- When given a long list of courses that might transfer from the military, professors did not know how to interpret it without more context

- This required researchers to look at military professions and occupational specialty codes to develop an idea of the sequence of training courses to determine prerequisites and rigor
 - These training plans are roughly equivalent to a university degree things because they contain a sequence of requirements that must be fulfilled in order to achieve promotion
 - Instead of exams, such training and coursework involves evaluation plans that contain information on how servicemembers are evaluated, evaluation methods, criteria for success and failure, etc.
 - These trainings involve field manuals and technical names, which are similar to textbooks
- Often, it appeared the content conveyed in trainings and in SDSU engineering courses was similar, but there are very different pedagogical approaches. Still, it appears that it would be possible to shorten the time to degree for students in many cases
- Articulation could also be to see if military service could count towards the lab portion of engineering degrees
- Community colleges have a much harder time granting general education or other credit for veterans, possibly due to bureaucratic constraints or because they are concerned that four-year institutions will not articulate credits they grant for military training and experience
 - Most of the student veterans at SDSU come from the community college system
- SDSU has found two primary biases with ACE guidelines:
 - ACE prefers to structure articulation in terms of complete college courses, which means there are few recommendations for upper division course credits
 - ACE has few engineering courses set up for articulation
- Some military branches are easier to work with than others to get information on these training programs—the marines have been the easiest, the army has been extremely difficult, and the navy tends to outsource information on educational activities to consultants (though they are concerned with learning outcomes)

Major Selection and Academic Planning

Some majors, such as international security conflict resolution, are extremely popular with veterans, active duty servicemembers, and ROTC students.

SDSU's vet center has seen many students come in expressing an interest in criminal justice because they want to join an elite government branch upon graduation. The vet center will advise students to consider other majors based on their interests, or what they think will most appeal to the career they say they want so that the students are aware of all the options available to them.

Additionally, the center has work study veteran students who can speak to major selection for students who are having trouble deciding, or who can offer other advice on things like:

- The quality of the program
- What kind of career pathway options there are in certain majors
- Which professors are high quality, which classes are worth taking

From the perspective of center employees, veterans who come in planning to do engineering tend to already have a plan when they arrive and tend to need less assistance. If students have specific questions they are routed to advising or to their respective department.

Preparedness for an Engineering Curriculum

Interviewees at SDSU felt that veterans' education is, in some ways, backwards from what students in college receive. Military training and coursework is highly focused on technical knowledge, but tends to eschew theory. However, this can help in classes at SDSU because veteran students ask some questions that traditional undergraduates would not know to ask.

SDSU partners with local community colleges to provide remedial education – community colleges provide remedial classes on SDSU's campus. SDSU does not offer its own remedial courses because they found over time that students coming out of community college remedial courses did better than ones that SDSU offered. Calculus is one area in particular where the remedial courses have been beneficial to student veterans – the courses have been able to bring them up to the level of students just having graduated from high school with AP Calculus. The decision to operate this way was highly data driven, which is also what SDSU is trying to do in moving towards accepting more credits for veterans going into engineering.

SDSU has noticed that many of the veterans going into engineering are first generation and do not have examples of engineers in their families. This is an area where SDSU thinks the military experience helps because it acquaints them with the profession and its ideas and work environment.

Separation from the Armed Services

One key issue SDSU identified as part of its grant was the timeframe for reaching out to veterans prior to their separation from the military. Some of these issues include:

- The military does not want to tell soldiers where to go, but is concerned about the predatory tactics of for-profit institutions
- Veterans need to receive information on educational options *before* they leave the military, at least 18 months before, as well as shortly after they have separated
 - However, determining when troops are going to leave the military can be difficult because it is not obvious when they plan to depart
 - Additionally, some officers may not want to grant access to troops that far in advance for fear that their best and brightest will leave to go to school rather than pursue a military career
 - This makes it difficult to help veterans plan for getting their calculus training and in general preparing for college
 - If it were easier to determine when troops were leaving, such as in the last year, their tuition assistance benefits could be planned in a way that prepares them for full-time college work
- The military's transition program (TAPS) is often ineffective because the servicemembers are so focused on getting out
- The Vocational Rehab offices in the area offer a program geared towards wounded soldiers and helps them transition into college by running a weeklong workshop where all

paperwork is completed and benefits are identified. Interviewees felt this program had been highly successful

- ACE suggestions are not well-understood by military education advisors, which can be extremely frustrating for separating veterans who are told one thing by their officers and hear another thing entirely at the university level
 - Inaccurate information can influence where the vet chooses to study and what the vet chooses to study, so this is particularly problematic
- These transition issues are furthered by the need to create partnerships between the universities and the military, both of which are massive bureaucracies

Issues with the VA

SDSU encountered the same issues as other institutions with the implementation of the post-9/11 GI Bill. Because the VA now sends funding directly to the schools, SDSU now has to deal with issues of monitoring the funds, managing them, dealing with over- or under-payments, etc.

Because schools in California do not charge tuition, and the GI Bill is based on tuition, there was a great deal of initial confusion on how to get benefits for student veterans. Each institution ended up having to come up with its own formula for reimbursement, which was extremely time consuming.

Funding

The GI Bill has had a huge impact because veterans do not borrow as much and have the stress of financing relieved. Additionally, it makes it easier to pitch the quality of SDSU to veteran students—a nine month degree from an online program versus a four-year degree from SDSU is different from an employer's perspective and the new bill enables these considerations. However, the new GI Bill does not enable colleges like SDSU to do much other than provide education to the veterans—they would like to provide even more services but need additional grants to do so.

Acculturation

SDSU's veteran population tends to be significantly more diverse than their traditional undergraduate population. One challenge this raises is helping them understand what it means to obtain a college degree, how to live on a college campus, and how to generally take a different perspective on pursuing a professional occupation post-college.

Furthermore, SDSU has found that it is not enough to just provide classes to student veterans—they really need a veteran friendly campus. Veterans at SDSU want to be able to sit with their peers in the cafeteria and be integrated into campus life. The SVO has been particularly helpful in this respect because it brings veteran students together. Some students have indicated that the SVO is helpful because they would be reluctant to seek assistance from non-veterans, possibly because it seems like a sign of weakness. SDSU's veteran center tries to deal with this discomfort by:

- Bringing other offices on campus in to speak with the student veterans

- Sending students to the Center for Well Being, which does not require appointments and offers services such as massage, meditation, computers with internet access, a library with books on stress, etc. Students do not have to go in and see a therapist if they do not want to

Veteran students at SDSU present with a variety of issues, including:

- PTSD and other anxiety and panic issues
- Relationship issues
- Nontraditional status and adjusting to being older than incoming freshmen or being unable to relate to their comparatively superficial concerns (e.g., Greek life versus being in a war zone)
 - This can lead to feelings of isolation
- Transitioning to civilian life

Post-College Employment

SDSU's career services office has an explicit focus on student veterans. Employees here have found that:

- The federal sector, defense contractors, and other STEM employers are particularly interested in hiring veteran graduates
 - This may be due to their existing security clearances, or experience with logistics and supply chain strategies, or because they understand firsthand what it is like to deal with contractors
 - Veterans have been in the system and understand how to take orders
 - Veterans are highly reliable and follow through on commitments
- Many student veterans do not even consider putting their military experience on their resume, even though it is a desirable attribute to employers
- Veteran students may need help translating their military vocabulary to lay-speak
- SDSU's office has tried to train career services counselors to not try to assist vets outside of their areas of expertise – if a veteran comes in with a mental health or disability issue, they are trained to direct the student to the appropriate office

Enrollment and Tracking

While SDSU has made extensive improvements to its student tracking systems, especially as it relates to student veterans, employees noted that they would like to have special admissions procedures for veteran students to help get them in the door initially.

Evaluative Findings

As part of its grant, SDSU has found 980 potential course articulations thus far, and has developed an even greater partnership with SDCC.

University of San Diego

Grant Focus

University of San Diego began its NSF EEC grant on September 15, 2009, focused on providing undergraduate engineering opportunities to veterans on the post-9/11 GI Bill:

This engineering education award to the University of San Diego will develop an innovative model for undergraduate engineering that is customized to the needs and strength of veterans. A particular emphasis will be on the success of women veterans. The results will also be presented on the web, at technical conferences and published in professional journals. Also the project will hold a one day workshop for the 15 universities in Southern California with engineering programs to discuss the results, to share best practices and to further promote and develop customized engineering education opportunities for veterans. The project is expected to assist veterans' transition to civilian life and to enhance the number of students who complete engineering degrees and are ready to fill engineering jobs or start new high tech businesses (USD Grant Abstract, 2009).

Site Visit

Our team conducted a site visit to USD on November 3, 2010 and met with:

- The PI on USD's grant and the Department Chair of Electrical Engineering as well as the Director of Engineering Programs, Kathleen Kramer
- The Associate Provost, Thomas Herrington
- The Assistant Director of Transfer Admissions, Erik Castillo
- A Senior Admissions Counselor, Scott Handley
- The VA Coordinator, Marvin Veneracion
- An Assistant Registrar, Craig Murken
- Staff in the Financial Aid office, including:
 - The Director of Financial Aid, Judith Lewis Logue
 - A Financial Aid Counselor, Patti Tarantino
- Three engineering faculty associated with the program
 - Ming Huang
 - Susan Lord
 - Rick Olson
- The Director of the Counseling Center, Steve Sprinkle
- A focus group of four veteran students in USD's engineering programs

USD has made significant efforts, both within the grant program and as an institution, to attract and retain veteran students. USD's grant-specific goals were to:

- Create strategies for ways to recruit veterans into engineering
- Ascertain ways in which military experience and education can be acknowledged by USD
- Work to ensure veteran student success by determining support services that are uniquely beneficial to veterans

- Attempt to provide student veterans with additional financial support by assisting them to find summer research and internship experiences

USD itself has developed policies and practices that are beneficial to student veterans. As noted, USD is a small, private, liberal arts university with less than 5,000 undergraduate students, and has leveraged its structure to benefit veteran students. For example:

- USD has an admissions counselor who functions specifically as a military liaison
- All veteran applicants are treated as transfer students to USD at the time of application. This special admissions standard ensures a higher rate of acceptance as transfers to USD are reviewed differently than first-time applicants
- Coincident with USD's veteran grant, USD admissions decided to do more veteran-specific recruiting. With the assistance of researchers on the grant, the office developed a targeted plan, and for grant program-related recruiting, the admissions liaison was also able to give targeted visits to help get veterans in the door
- USD participates in the Yellow Ribbon Program, which, in conjunction with GI Bill benefits, brings the tuition for veteran students down to \$8,285 compared to normal USD tuition, which is \$36,950
- USD applied for a grant to create a Veterans Office on campus to provide more support to student veterans. Although USD did not receive the grant, its administration is explicitly working to create linkages among USD's administrative offices that deal with veterans in lieu of creating a Veterans Office
- USD has developed a veteran support team composed of administrators, faculty, and staff from across the university to discuss how to make USD an excellent environment for student veterans
- USD has one of the largest NROTC programs in the nation
- USD's engineering programs are also working to develop web-based materials aimed at helping students to develop their engineering math skills, a product which would benefit student veterans considering an engineering program in addition to a general audience
- In preparation for the influx of veteran students into engineering programs, the Counseling Center organized workshops to help prepare engineering faculty and counseling personnel to assist and serve veteran students. The counseling center also developed veteran-specific student assistance materials
- USD hosted a reception in honor of veteran students in September, 2010

Focus Group Findings

As part of the site visit, we conducted a focus group with four students currently enrolled in USD's engineering program—two former naval servicemembers, and two former marines (one of whom had been in the marine corps band). Of these four students, two felt that they had been influenced by their military experience to go into engineering, and two did not. All four students expressed satisfaction with the environment at USD, calling particular attention to the support and assistance they received during the admissions process, the welcoming nature of the faculty, and the structures and services provided by USD to facilitate the transition to school (e.g., commuter student lockers, student support services).

On the less positive side, several students noted that the VA had been difficult to deal with regarding GI Bill benefits administration due to long delays and other administrative issues. However, they were satisfied with the assistance they received from USD in dealing with the issues. Additionally, some students felt that they were less prepared by prior academic work for the engineering program and had catching up to do. Finally, they noted a feeling of distance or being out of place when it came to interacting with traditional age undergraduates. In conjunction with this, most noted that their primary social network was located outside of USD. However, unlike the distance the veteran students felt from traditional undergraduates, the presence of an external social network was not a factor about which they expressed dissatisfaction—this network better suited their needs and situation. However, they stated that one exception to this arose in their engineering classes, which frequently required group work, and which helped them find a social base within the program.

Interviews: Key Themes and Issues

Credit Transfer and Articulation

Many veteran students arrive hoping to receive credit for previous military training and experience, or past work at other colleges (both community and four-year). However, USD has encountered several issues in this area:

- USD takes only about 8 units of military credit, which do go towards graduation, but this is typically less than the number of credits students could potentially transfer in
- Credit transfer is particularly troublesome for engineering because veterans can come in with training and course experience that sounds very technical on the surface but are not actually applicable to the major. For example, students might have taken hydraulic engineering and know how to actually fix things but will not have had the theory behind it and therefore cannot receive credit for their experience
- Interviewees also noted that community colleges, where many veterans take courses prior to transferring to USD or during their time in service, do not have adequate advising structures, which results in veterans and active duty students squandering education benefits on courses that do not advance them towards a degree
 - When students attempt to transfer these credits to USD, they have a grab bag of courses on their transcript and become frustrated when the credits do not apply to their major and/or transfer to USD

Preparedness for an Engineering Curriculum

One consistent theme in our interviews was the issue of preparedness, especially with relation to math and science requirements for engineering:

- Veterans may come with technical skills but are not used to having to think through academic problems, an issue compounded by having been out of school for some time
- Many veterans take classes at community colleges that do not prepare them for the rigorous and rigid engineering curriculum
 - Students may use their benefits inefficiently at the community college level and have to do catch-up work at the four year level that costs more money and uses more of their GI Benefits that could be going towards in-major work

- General education at a community college is not sufficient preparation for engineering
- While engineering math begins at the calculus level, many veteran students who take math at the community college level may spend two years in other math courses prior to getting to calculus, which is a waste of benefits
- Students could arrive with a completed liberal arts core curriculum but still be at the freshman level from an engineering perspective
- Students are consistently under-prepared for physics and math
 - Engineers and physics majors are the only students who tend to take more than basic physics, but these students are not prepared effectively by high school physics courses
 - Because this is a consistent problem across all students, USD engineering does not expect veteran students to come into the program prepared for physics
 - In spite of the aforementioned issues with community college preparation, the program does expect veteran students to come in ready for calculus

Funding

USD has had challenges setting up its Yellow Ribbon Program due to repeated changes in federal regulations and California's public school tuition structure—because schools in California are technically tuition free and any bills are considered fees, the GI Bill was not actually able to cover these costs for students.

Acculturation

USD also found that veteran students returning to higher education after a period of absence—or for the first time—may need encouragement to utilize university services aimed at helping them with study skills, test taking, and so forth. Interviewees felt that if veterans were given explicit encouragement or instructions to try these services they would be more likely to do so because they are accustomed to following explicit instructions.

Our interviewee from counseling saw returning veterans faced with issues typical of those noted in the literature:

- Difficulty balancing home and school life
- Irritability and anger, especially related to perceived unfair treatment
- Trouble finding a niche on campus and/or feeling disconnected from other students
- A sense of chaos caused by the difference between college and the military where students must face having multiple “commanding officers” who all ask them to do different things

Enrollment and Tracking

Students do not always self-identify on the USD application that they were US armed forces. When students apply for benefits, the registrar's office captures their veteran status, but the need for students to self-identify at the time of application means that if they do not do so they do not receive the application advantages given to veterans, and makes initial tracking of the population difficult.

Evaluative Findings

USD's initial one-year grant was more oriented towards planning. As a result, USD primarily worked on setting up the program and recruiting students and included a large number of recruiting-oriented activities in its grant budget plan.

Overall, USD has seen its veteran student enrollment double since August 2009. Within engineering specifically, seven veteran students are currently enrolled. USD itself has approximately 200 student veterans on campus in all of its programs, and the Associate Provost expects that the total student veteran population will rise to approximately 300 to 350 as the Yellow Ribbon Program Continues. USD's NSF grant is set to expire on October 31, 2011.

University of Virginia

Grant Focus

UVA's grant is focused on creating an accelerated master's program in systems engineering specifically for veteran students. Specifically:

This engineering education award to the University of Virginia will develop an innovative model for an accelerated master's degree in systems engineering that is customized to the needs and strengths of veterans. A particular emphasis will be including research experiences and industrial internships within the degree program. The results will also be presented on the web, at technical conferences and published in professional journals. The project is expected to assist the transition of veterans to civilian life and to enhance the number of students who complete engineering degrees and are ready to fill engineering jobs or start new high tech businesses.

Site Visit

Our team conducted a site visit to UVA on October 22 and 23, 2010 and met with:

- Individuals Associated with the UVA Accelerated Master's Program, including:
 - The Executive Director, Mike Smith
 - The Program Manager, Beth Harrison
 - The Veterans Coordinator, Tom Brett
- The Associate University Registrar, Sheila Tolley
- The Director of the Center for Engineering Career Development, C.J. Livesay
- A focus group of three student veterans in the program

UVA has made efforts to attract and retain veteran students. UVA's grant-specific goals were to:

- Improve existing marketing, recruiting, and admissions processes of the program in order to incorporate the veteran-specific aims of the grant

- To accomplish this, the program manager worked with a faculty member and graduate student to put more information on the website, make videos of two previous students and program events, etc.
- The program manager also represented the program at recruiting events, such as one for transitioning military servicemembers with security clearances into non-military occupations, a virtual career fair, etc.
 - While many of these events were primarily career fairs, some educational institutions participate as well. These fairs are targeted towards active duty troops who are looking to transition out of the armed forces
 - They brought a current student veteran in the program to the American Society of Naval Engineers meeting to circulate and discuss the program with other soon-to-be veterans
 - This student also assisted with the information session held in conjunction with the event
- In conjunction with these recruiting events, the program ran targeted ads in certain newspapers to try to call attention to the program and their presence at these fairs
 - For example, the program has run ads in *Going Ashore*, the quarterly paper for transitioning military personnel that is handed out at all the required transition classes that departing servicemembers take
- Overall goal was to recruit 10-12 veterans for the class beginning in May 2011
- Program staff seek to ensure that operations and support services run so smoothly that students only have to focus on academic coursework, with minimal attention to other administrative items
- Because the program has different run dates than other programs and courses at UVA, another program goal is to complete every veteran student's certification in the second week to ensure that they receive their benefits. Billing is also conducted in a way consistent with the normal UVA schedule to avoid creating difficulties for students
 - Veteran students must be certified each semester
 - The program is trying to secure funding for a full-time staff member to serve and recruit veterans

UVA itself has developed policies and practices that are beneficial to student veterans. As noted, UVA is an elite, public university and has leveraged its structure to benefit veteran students. For example:

- UVA has several student veteran organizations that are run out of each school
- The new president of UVA has made student veterans a priority and has hosted a few meetings specifically focused on this group
 - This is also a focus of the Dean of Admissions, who is hosting similar meetings
- Several schools have veteran's certificate programs that are eligible for funding through the VA
- UVA is working with community colleges to improve articulation agreements and jointly offer courses to students at a distance

Returning from/Departing for Active Duty

- Students are given a choice in how they want to handle having to depart for active duty—they can withdraw completely for the semester and receive a full refund, or they can try to work out accommodations with the faculty, or they can take incompletes
 - There are special provisions for incompletes in the case of students called to active duty—they have more time to finish

Focus Group Findings

As part of the site visit, we conducted a focus group remotely with three student veterans currently attending UVA.

Unique Program Benefits and Challenges

Student appreciated the accelerated pace of the program:

- One student drove four hours each way to come to the accelerated engineering program at UVA in order to make the most efficient use of her GI Bill benefits and avoid spending too much time away from her family. This student made the choice to treat her program like a deployment and discussed this with her family so that they understood that even though she was home, she was studying, etc.
- Another student agreed with the benefit of the accelerated program because it matched well with his military discipline and challenged him to get the program done in a timely fashion
- A third student concurred with this assessment, stating that having a Friday-Saturday program commitment every two weeks made it possible for him to arrange his work schedule around the program, which he would not be able to do with a traditional master's program

However, the pace of the program also caused challenges:

- One student noted that the accelerated pace meant a great deal more work and assignments in between classes, which created additional challenges
- Some classes have a great deal of group work, which can be challenging to coordinate if you are trying to work full time while doing the program
- Coming back every two weeks while having outside life obligations can make it hard to come back and focus on the curriculum
- Some professors did not sufficiently consider the way to adapt their syllabi to the different meeting times of the program and attempted to simply convert their normal semester assignments and classes to the attenuated format, which initially resulted in too many assignments being due at once, etc.
- Having one class for an entire day can be challenging—students noted that it can become tedious, although they felt that their military training helped them deal with it because in MOS school troops have to be trained for six months, sometimes for twelve hours a day, on various topics

The cohort structure was also very popular with students—they enjoyed having a group to work with, go through the program with, and interact with during their time at UVA.

Program Selection

One student did not feel that her undergraduate engineering background was assisting her with the program as much as her leadership experience was—she felt that her experience in the military enabled her to understand the big picture and enabled her to lead and assist others.

Another student felt that the systems engineering program was a good complement to his undergraduate degree in brain and cognitive science (which involved a great deal of mathematics). This student was attracted to UVA due to its reputation, the rigor of the program, and the cohort structure.

Preparation

Perceptions of preparation for the program differed. One student explained that the “fire hose” method of instruction is popular in the military—where information is simply crammed into students and they are made to memorize vast quantities. This made the accelerated pace and long days of the UVA program seem like a feasible structure

- This student also felt that the technical training and drills in analytical writing had assisted with her study skills, while being a battalion training officer had assisted her with leading in group work settings
- However, this student acknowledged having to do a great deal of prep work for the GRE due to being out of practice on mathematics and having to play catch up once the mathematics within the program began

Another student noted feeling concerned prior to commencing the program due to having been out of studying engineering and mathematics for so long. Remembering the mathematics was difficult for a couple of the students we spoke with.

Students who had completed other post-baccalaureate coursework prior to the UVA program had mixed experiences:

- A student who enrolled in a purely online program felt that he would have gotten the same educational benefit out of simply reading the textbook on his own
- Another student felt the other coursework had helped to prepare her for the UVA program by getting her accustomed to studying and being in class again, even though it was teleconferenced

Post-program Employment

One student felt that while he could articulate his skills and assist a large company like Lockheed Martin, he would not be able to interface effectively with a small business owner and that the program could have done a better job training him for that kind of job.

Another student noted that she had to have the degree in order to be competitive as a consultant since all of her peers had master's credentials and so she felt the UVA program was going to assist her in recruiting customers.

Interviews: Key Themes and Issues

Several issues stood out from our interviews with various offices at UVA.

Credit Transfer and Articulation

- Transfer credits are assessed at the school level, typically by the deans' offices, and these are generally traditional transfer credits (e.g., few transfers based on military experience)
 - The lack of evaluation of military experience and transcripts may have to do with colleges being unaware that they can grant credit for this experience and/or might not be open to doing so due to the traditional nature of UVA
 - Another part of this may be that veterans are not self-identifying and/or using their benefits in order to save them for another institution. UVA also does not have a large undergraduate veteran population, which is where most military credits transferred in would be useful
- Transfer credits are coded in such a way that if a credit is equivalent to a course at UVA they may list the student has having taken that course, or the credit is flagged as a transfer but it is not clear whether it is from the military or from a different postsecondary institution
 - Additionally, if a student is transferring in from a community college they may have received credit at that college for their military experience

Preparedness for an Engineering Curriculum

Program staff were concerned about students coming in with sufficient preparation to handle the mathematics aspects of the curriculum. While they would like to offer a transition course to help students get up to speed, that would require asking them to take additional time out of their work schedules to complete the preparation and there might not be sufficient interest in such a course to be able to offer it.

Often, if mathematics preparation is a concern, staff will refer veterans to Mike Smith, a professor in the program, to discuss the potential issues they will encounter with math, and whether they need remedial preparation.

Separation from the Armed Services

Staff involved with the program have seen veterans come in who are very on the ball and others who do not really seem to understand what they are getting into. Staff felt some veterans may have looked at options before them and decided between remaining in the military or transitioning into the civilian workforce, and saw this program as a way to leverage their military service experience and training and GI Bill benefits into an appealing civilian career opportunity.

Recruiting Issues

Recruiting student veterans to the program has been one of the main focuses of UVA's grant. Staff have encountered several challenges with relation to recruiting:

- Finding prospective students at the right time in their military career
- Students may not have considered engineering as a career option, or may lack academic preparation to go into the field
- The program initially was not pursuing the proper venues, or were not advertising with enough frequency—the program wants to create a real awareness of its existence and use inside channels in the military to find target populations
- Some prospective students are not clear on what systems engineering is and program staff are careful to explain systems engineering, particularly as it is presented through the UVA systems engineering curriculum

Staff attempt to ameliorate these challenges by:

- Emphasizing that the program will help them and make sure they succeed
- Describing accurately and in detail what students need to do to prepare themselves to be high-quality candidates for admission
 - e.g., help them find an appropriate math class at a community college
- Going to more career fairs and events—staff felt they learn more each time they go to an event and gain ideas for their next trip
 - For example, the program now coordinates with bases to send out email blasts advertising the program so that servicemembers who cannot make the information sessions are still able to get the information
- Pointing out to prospective students that the program offers one means of career advancement for officers who need additional technical training
- Encouraging word of mouth advertising by other veterans and former students as word of mouth seems to have a heavy influence on enrollments
- Considering whether they can recruit from UVA graduates who were in ROTC

Issues with the VA

UVA has seen improvements in their dealings with the VA. The first time through with the new GI Bill and new Yellow Ribbon offerings things were very complicated. Things have subsequently improved and gone more smoothly.

Although the program does not operate on the standard UVA academic calendar, it aligns the course credit hours with the academic calendar since that is how they must be reported to the VA and for billing purposes. The credit hours each semester are sufficient to maintain full-time student status throughout the program.

Funding

Some staff have noticed that veterans, even with the GI Bill benefits, struggle to make ends meet. Initially, benefits were not expected to cover the full cost of UVA tuition. However,

subsequent rulings by the VA have determined that veterans who qualify for Post 9/11 GI Bill benefits are entitled to tuition and fees sufficient to cover the entire cost of the program.

In many cases employers are covering the cost of tuition for their employees, but, initially some veterans were not provided with sufficient funding to cover the cost of the program because the VA had not yet determined the amount allowed for program fees.

Also, the program has not been able to participate in the Yellow Ribbon Program because current GI Bill requirements dictate that an entire school or college must participate, not a particular program, which was not an option for UVA's engineering school – UVA does not want to offer undergraduates Yellow Ribbon benefits.

Acculturation

Program staff anticipate that as the number of student veterans rises in the program they will need to make some additional accommodations. One such accommodation might be to offer an elective track/specialization specifically tailored to student veterans that includes an internship component designed to help them transition into the workforce.

Post-College Employment

The office of career services in engineering has found that students at the graduate level typically have pretty clear professional ambitions and do not need the kind of guidance that undergraduates do. The office has not seen many student veterans.

Enrollment and Tracking

Program staff want to recruit more veterans to enroll because they add to the experience of the cohort and are typically highly motivated, self-disciplined, and committed to completing the program successfully. From a tracking perspective, staff would like to be more familiar with what is going on in other schools with respect to student veterans.

Evaluative Findings

From the UVA program's perspective, success on the grant would involve:

- Recruiting a number of student veterans into the admissions pipeline and program
- Finding positions of employment for student veterans who graduate from the program and have not had previous employment in the field

Widener University

Site Visit

Our team conducted a site visit to Widener on October 12 and 13, 2010 and met with:

- The Dean of University College (Widener's continuing study branch), Emily Richardson

- The Assistant Dean of University College, Kay Marie Platt
- An Assistant Director in Undergraduate Admissions, Jason Britton
- The Director of Graduate Admissions, Roberta Nolan
- The Director of Student Financial Services, Thomas Malloy
- The Dean of the School of Human Services and Associate Vice President, Steven Wilhite
- The Assistant Dean for the School of Engineering, Nora Kogut
- Individuals affiliated with Widener's Academic Support Services, including:
 - The Associate Provost for Academic Affairs and Dean of Students, Denise Gifford
 - The Associate Dean of Student Affairs, Michael Lombardo
 - the Director of Exploratory Studies (Widener's program for undecided students); the Director of Academic Coaching and Project Repair; and the Director of the Widener University Student Counseling Center
- Individuals affiliated with Widener's One Stop Center (a comprehensive enrollment services center) including:
 - The Director of Student Financial Services, Thomas Malloy
 - A Veterans Benefit Coordinator, Colleen Shinkle
 - The Registrar, Steven Foxman
- Individuals associated with Academic Affairs, including:
 - The Associate Provost for Undergraduate Academic Affairs, Geraldine Bloemker
 - The Director of the Office of Academic Coaching, Tim Cairy
- Individuals at Widener's law school associated with running their Yellow Ribbon Program, including:
 - An Admissions Counselor, Anna DelPuerto
 - The Director of the Financial Aid Office, Eleanor Kelly
 - The Director of Exploratory Studies, Amy Yaillett
 - The Director of the Widener University Student Counseling Center, Beth Hewlett
- A focus group of five veteran students currently enrolled at Widener

Widener has developed policies and practices that are beneficial to student veterans. For example:

New Initiatives

- Widener recently formed a Committee on Veterans and Military Education to study military/veterans' experiences and education at Widener
 - The committee was composed of individuals from all across campus.
 - The committee put together a plan so that they could explore what happens to veteran students when they come to campus
 - As a result of their research, the committee realized that Widener did not have a coding system and could track veterans and is currently working to implement one
 - Participants on the committee felt that their investigation made them aware of many services Widener provided that would be beneficial to veteran students
 - From these findings, University Relations was able to create a magazine and recruitment materials specifically targeted to veterans

- Through this new marketing, and with some additional effort on the part of the institution, the number of veterans has dramatically increased. Participants noted that students in ROTC and other veteran students serve as a valuable marketing tool through word of mouth endorsements
- In Fall 2010, Widener hosted a reception for veteran students so that those who provide services to veterans could meet the veteran student population and share with them what student services were available to them
- Widener is aiming to begin a student veterans organization by spring 2011
- The school is currently working to find funding to create a veterans office on campus

Current Institutional Practices

- Widener became a Yellow Ribbon participant in the 2009/2010 school year. At this time, Widener is signed up for unlimited benefits at the main campus—they will accept and pay for as many students as are eligible
- Widener's law school also participates in Yellow Ribbon to a limited extent: it accepts five students into the program (five on its Delaware campus and five on its Harrisburg campus) on a first come first serve basis
- Widener is a Servicemember's Opportunity College

Student Services

- Widener's Disability Services office offers academic coaching to any student who provides documentation, whether they actually are eligible for separate accommodations or not. This coaching is different from academic tutoring because it has more of a psychological perspective and an information processing perspective. These are intended to enable Widener to tailor the coaching to the individual student. Additionally, the office is run by a psychologist and is staffed by doctoral interns in psychology
- Staff in the Counseling Center have undergone a certificate program in treating veterans and their families through Widener's PhD program in clinical psychology. Course components include treating sleep disorder, depression, suicide risks, working with families, and the military culture,
- The Veteran's Law Clinic at Widener University School of Law offers free legal aid to veterans living at 150% of poverty level who have been denied benefits by their Regional Office and wish to take an appeal to the BVA
- The law school also has a specific veteran's liaison for students considering enrollment who is charged with answering any questions they have about benefits, pursuing further experience within the military, etc.

Focus Group Findings

As part of the site visit, we conducted a focus group with five students currently enrolled at Widener. Key findings related to:

Credit Transfer

One student noted that, although the credit transfer process itself was easy to navigate, the amount of credits that actually transferred in was not what the student expected. While the student understood that his program contained many specific requirements to which his credits might not be applicable, he expressed frustration that he had 45 existing credits, 21 of which he was able to transfer in. One area with which he was particularly displeased related to having to take basic English courses when he felt his credits and prior experience indicated that he was more advanced. He expressed annoyance that he had to take a basic freshmen course as an older and more adept student.

Funding

Several students mentioned difficulties related to obtaining their GI benefits and general funding for their studies:

- Three students encountered significant benefits-related issues on the Widener side of the process due to staff confusion over policies and eligibility. The students who encountered issues had to be their own advocates, and these students found the process of applying for funding to be confusing and stressful
- One student suggested that the VA ought to do more outreach to colleges and universities to provide more guidance and assistance on benefits
- Another suggested that the school host sessions with students about how the VA processes benefits, how students should apply, etc. to improve the disconnect students sensed between the VA and Widener and students and Widener

Major Choice

Of the five students with whom we spoke, only one felt that his MOS had any bearing on his major choice—this student went into engineering after serving as an engineer in the army.

Acculturation and Engagement

Students generally felt that academic and other institutional support services were available to them, if desired, though few acknowledged having used them.

Students expressed strong support for Widener's emphasis on community engagement in its curriculum and the opportunities it provided for outreach.

Interviews: Key Themes and Issues

Credit Transfer and Articulation

Widener interviewees noted that the institution makes a strong effort to grant students academic credit based on their ACE transcripts, prior academic work, etc. Those responsible for credit evaluation attempt to assign potential credits to either lower or upper division courses; if credits do not fit within that framework, staff offer credit as a free elective in the students' major.

Incoming veteran students always are granted at least six credits, and some students may receive as many as thirty.⁴

Funding

Widener has worked to streamline its veteran student funding processes:

- Students who do not receive Yellow Ribbon funding are eligible for any other form of Widener assistance
- Widener offers three scholarships that can be preferentially targeted to veteran students. Of these scholarships, one was initially intended for ROTC students, but Widener worked with the endower to change the eligibility to veteran students because ROTC students already received funding
- After encountering issues with the release of student benefits from the VA, Widener created a separate account for eligible students to which their GI Bill Benefits owed to Widener can be billed. The resulting structure allows Widener to credit students' main accounts for the amount of their GI benefit so that students have a guaranteed source of funds regardless of the VA timeframe. Additionally, students are not penalized with registration holds if the VA delays release of benefits
 - However, Widener has found that the turnaround time from the VA in payment of benefits has improved

Acculturation

Veteran students returning to school at Widener have presented with various forms of adjustment issues—the transition to college life, being back home, coping with being a non-traditional student, etc. With respect to counseling and psychological services, veterans do not initially tend to self-identify, but their status will emerge during intake discussions.

Widener has found that veterans appreciate and endorse the presence of one-stop student account services because it makes the process of entering college significantly easier for them. Staff felt that the one-stop model better enabled them to work together to meet the specific needs of veteran students, and that Widener's model made it more effective at doing so than other traditional day schools.

Preparedness for College-level Work

Widener's academic support services staff rarely encounter students who self-identify as veterans when seeking assistance. Generally, Widener has found that veteran students tend to be high achievers due to their discipline and willingness to do what they need to in order to succeed. Many of Widener's veteran students begin wanting to only take one or two courses and shortly return to ask how to transition to full-time coursework. These students frequently come in concerned about transitioning back into school, begin as part-time students, and then find that they are fully capable and want to ramp their academic work up significantly.

⁴ This interview finding contradicts our focus group conversation about lack of sufficient transfer credit assistance

Of the few who have self-identified in seeking accommodations, the Disability Services office found that they sought accommodations for things like post-concussion issues, learning disabilities, or memory deficits.

Enrollment and Tracking

Veteran students at Widener often begin in University College instead of Widener's full-time undergraduate program (day school). However, Widener has begun seeing more students enrolling in the day school. The challenge Widener faces is working to determine how to ensure that both groups of veteran students are connected to services and the institution. In fall 2010, Widener attempted to negotiate this difficulty by offering a veteran-specific orientation.

Widener has also noted veteran student interest in certain majors. Many veteran students at the institution are gravitating towards the nursing program, criminal justice, psychology, professional applied studies, and engineering.

Interviewees noted several difficulties with respect to tracking student veterans:

- Widener's database cannot easily report many calculations such as average GPA for all veteran students or determining stop-out and drop-out patterns. Such data requests would require hand calculations and make reporting difficult and time-consuming
- While the Committee on Veterans and Military Education determined that Widener offers the services that Veterans would need or seek out, members also found that little coordination of services occurs. Widener does not have a clear coordination point or party who can point veterans to the proper person they need to seek for assistance
 - Widener hopes that its new coding system for veterans, which is being implemented in 2010/11, will better enable it to track veteran students and the offices to which they go for assistance so that Widener can assess its competency in dealing with this population

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