
AC 2011-1724: TRANSITIONING AMERICA'S VETERANS INTO SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) ACADEMIC PROGRAMS

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Transitioning America's Veterans into Science, Technology, Engineering, and Mathematics (STEM) Academic Programs

Abstract

The *Post-9/11 GI-Bill*¹ presents opportunities to bring motivated, mature, dedicated, and disciplined students into academia, especially into STEM fields closely related to their military job experience. However, many of these students may have been away from the classroom for several years and may not be as prepared to enter college as they might have been prior to entering the military. These veterans have a high potential for success as students in STEM fields of study but may need some special assistance and mentoring in refreshing their academic skills. Through two CCLI grants from the National Science Foundation, the authors are executing a planning grant designed to assist and facilitate the transition of these veterans into STEM curricula at two- and four-year institutions. Demographic data is being collected to better understand exactly where these students would be transitioning out of military service and where they are likely to enroll in higher education. A consortium of geographically distributed industrial and academic partners was developed to forge the necessary articulation agreements with participating partners, conduct a needs assessment, develop head start curricula, and implement pilot projects from which we can gain lessons learned in this overall effort. This paper describes the authors' efforts to date in implementing these projects.

Introduction

The National Science Foundation's Directorate for Engineering (Engineering Education and Centers) awarded an 18-month planning grant¹ to the authors of this paper for planning for the influx of veterans into academic programs as a result of the *Post-9/11 GI-Bill*¹. The authors offered to put together a nation-wide consortium of universities and supporting industrial representatives and develop a support structure at multiple universities to facilitate the re-entry of military personnel transitioning from military service and returning to academia. Furthermore, the effort is specific to supporting veteran success in science, technology, engineering, and mathematics (STEM) programs. A second grantⁱⁱ was awarded by NSF to the authors to facilitate implementation of the initial planning activity. This paper describes the efforts supported by both grants as well as related veteran initiatives at Mississippi State University (MSU).

Initially, Mississippi State University began its NSF-supported veteran's initiative in 2008, through a grant from the Cyberinfrastructure Training, Education, Advancement, and Mentoring (CI-TEAM) program which supported a project titled "A Digital Forensics Cyberinfrastructure Workforce Training Initiative for America's Veterans" in August 2008.ⁱⁱⁱ This grant permitted MSU to work with transitioning veterans and wounded warriors in Veterans Administration and Department of Defense (DoD) hospitals by providing vocational training to veterans in the area of digital forensics investigation – a STEM area. Since that award, several hundred veterans and wounded warriors have participated in sponsored training at Walter Reed Army Hospital, Washington, DC, Norfolk Naval Hospital, Norfolk, VA, Fort Carson, Colorado Springs, CO, Veterans Administration Hospital, Jackson MS, and Fort Benning, Columbus, GA. Success with

this program (which is still ongoing) led to our subsequent proposals to work with veteran reintegration into academia.

In September 2009, the authors were awarded their initial grant to begin the planning process for programs that would support the reentry of veterans into STEM programs and facilitate their success. Part of this effort included establishing a consortium of universities that could work together in the planning process with the intent of implementing sustained, long-term veteran friendly programs supporting STEM studies at each of the participating institutions. The initial consortium of universities that agreed to work with MSU to develop this program included the following institutions. Please take note of the proximity of each to concentrations of military at nearby installations.

- University of Washington (located near Fort Lewis WA, McCord Air Force Base, and Bremerton Naval Station)
- San Diego State University (located near one of the two largest Naval installations and nearby US Marine Corps facilities)
- Texas A&M University (an exceptionally veteran friendly campus located near many DoD installations in the state of Texas)
- The Air Force Institute of Technology (a DoD graduate school located at Wright Patterson Air Force Base in Dayton, OH)
- North Carolina Agricultural and Technical State University (an HBCU and located very close to Fort Bragg and Pope Air Force base)
- New Jersey Institute of Technology (located near Fort Monmouth, Fort Dix, and Dover Air Force Base)

In addition, the authors were able to obtain the assistance of the National Security Agency and the US Army's Pentagon Chief Information Office (CIO) to assist in the planning process. The support from the Department of Defense has continued to increase with additional agencies offering assistance as the project becomes more widely known.

An initial meeting of the team was held at the National Science Foundation on January 25-26, 2010 to outline the planning process and to discuss curricula and support structures needed for this effort to be successful. One of the many outcomes of that meeting was that academic transition training was going to be necessary in not only academic courses (mathematics, science, and English), but also in the more basic need to facilitate entry into an academic culture. To that end, a non-credit class was developed to provide veterans with an introduction to academic culture and life. That class was first taught in the Fall semester of 2010. After significant and in-depth discussions, the consortium members came to the conclusion that geographic location, programs offered at each institution, and existing infrastructure would contribute to and influence the kind of transition courses needing to be offered. Consortium members believed that it would be beneficial to develop several prototype projects and share the results with the academic community as lessons learned were acquired. To that end, consortium members then applied for individual grants to facilitate their specific implementation and several were successful in that effort. This paper describes one such attempt at Mississippi State University.

It was apparent at the January 2010 meeting at NSF that consortium members already had a number of programs in place that could be shared and would facilitate individual university curriculum development. For example, the Air Force Institute of Technology has an academic preparation course used for students entering their graduate programs (many are active duty military or government civilians) that has been highly successful in preparing students for a return to the classroom; Texas A&M has an assessment tool for mathematics that is useful for placing the student in the right mathematics class; North Carolina A&T has a successful program designed to reduce the high attrition rate they were experiencing for out of state minority students (the program is called Helping Orient Minorities to Engineering – HOME); and the New Jersey Institute of Technology has an introductory course for engineering using application-based learning. These and other ideas were identified at our initial workshop and efforts are currently underway to integrate appropriate components into the pilot program implementation supported by our current grants. A second consortium meeting is being planned for Spring 2011 to continue the discussion and to compare results achieved to date.

An initial needs assessment was conducted with a pilot group of veterans during the Fall 2010 semester to determine what coursework might be needed most, what military training and education could be articulated to college credit, and what additional special needs this non-traditional group of students had. As a result, some special review courses were developed in key subject areas to assist in the students' preparation for entry into mainstream classes. These classes will likely prove to be important to the long-term success of these students. Veterans, we believe, generally do not need the in-depth instruction typically given in remedial courses and the time limit on their GI Bill benefits dictate that the students complete degree requirements in as short a period of time as possible. In addition, our planning takes into consideration involvement of these students in co-op and intern programs as a means of assisting them with financial concerns and re-entry into the workforce.

The remainder of this paper addresses why this program is important, an overview of challenges to be faced, and future plans for implementation.

The Need for Assistance Programs

According to the recent NSF 2009 report on Veterans' Education for Engineering and Science,² more than 23.4M living veterans used veteran's educational benefits in FY08 and some 2.1M of today's veterans are eligible for the *Post-9/11 GI-Bill* which will greatly expand educational benefits and further encourage transitioning military to take advantage of additional education. During this time of economic downturn, many military personnel exiting active duty are beginning to return to academia as a way to improve their marketability, increase their personal technical backgrounds, and to take advantage of the educational benefits acquired through military service. This largely underserved and highly diverse population represents a unique opportunity for academia to gain students not seen since post-World War II when thousands of military returned to school and more importantly, an opportunity to support and encourage their entry into STEM fields of study. This largely underserved and highly diverse population represents a unique opportunity for academia. Considering the nation's current reliance on STEM fields of expertise and the shortage of graduates from these disciplines, the authors believe that transitioning veterans, with the proper encouragement and facilitative environments,

could impact the numbers of STEM graduates in significant numbers. Additionally, given the diverse nature of this population, a program targeting this group could also increase the numbers of females, persons with disabilities, and other historically underrepresented groups. Based on Veteran's Administration (VA) data,³ in 2010 there were over 22M living veterans – of which almost 2M were female and over 5M were listed as other than “White, Non-Hispanic”. When reviewing data for Gulf War only veterans⁴ – over 5M were living in 2009 and that number is expected to rise to over 6M within ten years. Approximately 850,000 of the 5M Gulf War veterans reported today are female. There is an obvious opportunity to encourage and facilitate a highly diverse, motivated, experienced, and mature body of students that could potentially enter STEM fields of academic study. Over the next five to ten years, it is expected that the numbers of veterans having technical skills coupled with VA educational benefits will grow as the active duty population decreases concomitant with the decreased presence in Afghanistan and Iraq. This, coupled with the advent of the new *Post-9/11 GI-Bill*¹ will offer veterans a unique opportunity to further their education with significant financial support.

While on the surface one might expect large numbers of veterans to enter academia, the reality is that many will not without additional facilitation. The National Science Foundation Workshop on Enhancing the Post-9/11 Veterans Educational Benefit² agreed with this assessment and suggested that special programs may need to be established to assist veterans transitioning to academic programs – particularly those in STEM fields of study. While we know that many military occupations fall into the science and technology areas, we are also aware that veterans' experience in these jobs does not always translate into a desire to pursue STEM fields of study or related vocations. For example, from Black, et al.⁵ we know that less than one percent of young veterans work in the information and communication industry 24 months after they exit the military. However, approximately thirty-five percent of enlisted members serve in electronics, communications, or other technical fields.² This would suggest that some facilitation within the academic environment is necessary to assist these veterans in understanding the career opportunities and being successful in technical fields of study.

The opportunity to increase representation by historically underrepresented groups (ethnic, gender, and persons with disabilities) cannot be overstated. While there have been many studies that suggest reasons for this under-representation, the authors believe that the combination of exiting veterans, coupled with the advantages of the *Post 9/11 GI-Bill*, and the approximate 30% of the veteran population having STEM-field experience and training through the military, offers a unique opportunity to improve diversity within STEM fields of study. Using actuary tables available from the US Veterans Administration,⁴ we note, for example, that there will be nearly one million female Gulf War veterans in 2010. If just 30% of these can be attracted to STEM academic fields, there is a potential influx of over 300,000 female students. Similar opportunities exist when one looks at VA data with respect to various ethnic/racial groups.

Additionally, this program has the potential to be a catalyst for unprecedented partnerships between academia, industry, the Department of Defense and the Federal Government. The authors have already experienced strong support from these communities as the program becomes more widely known. This is an important characteristic of our work in that these communities of interest are the very ones that will likely hire the veterans graduating from STEM programs.

Challenges to be Faced

While the *Post 9/11 GI-Bill* does in fact offer substantial support for military members returning to academia, it is not a comprehensive support program and requires some supplemental support. On the surface one might expect large numbers of students to enter academia as a result of this program coupled with the current economic condition - the reality is that many will not without additional assistance. The NSF workshop report² identifies some of the facilitative requirements necessary and the authors agree with those identified and believe others may also be necessary. Challenges that must be addressed to make this program successful include, but are not limited to, the following:

- a. A successful program must provide students four years of support for 12 months per year, combined with transition programs, tutorial activities, and research/work experiences. Of particular concern is the unfunded gap during the summer months that the *Post 9/11 GI-Bill* leaves.
- b. A program that supports an orientation on the whole family rather than just the individual veteran student will be necessary for the academic program. We believe that a large number of such students will arrive on campus with a spouse and/or children. Thus, they face the task of supporting their family as well as themselves during their education endeavor. For example, family members may need to remain in campus housing while the student is participating in co-op to avoid disruption of spouse's work schedule or children's school schedule. Current university policies may prohibit this.
- c. Veteran access to STEM programs must include the community colleges, four-year institutions, and graduate programs. Articulation agreements may need to be forged between academic institutions, so a student can begin a program at their last duty station and finish at an institution near their home or workplace. While this may not constitute a daunting task within a particular state, it is likely to be a formidable task between states.
- d. Veterans would like academic credit for their military training or for life experience. Universities typically do not award such credit or are unprepared to do so.
- e. The veteran may need to arrive on campus at the beginning of the summer period prior to a normal academic year at a community college or university to undergo tutorial programs to help facilitate their success during the academic year. These programs may need to include intensive instructional programs to assist the veteran with preparation for the science/mathematics/engineering courses (and possibly others if deemed necessary during the student assessment stage) they will be taking during their first year on campus.
- f. Institutions involved in this program must have an office dedicated to veteran support and an office with industrial/career links to facilitate employers who wish to hire the veteran. Veterans are in need of assistance in taking advantage of government programs and in receiving counseling specific to their unique needs. Such centers also are helpful in providing the veteran with a network to other veterans and perhaps even a social outlet.
- g. Adequate "family" housing must be available as well as single student housing. It is important to note that the veteran population is older than the traditional university student and a significant number are likely to have families that need to be accommodated.

- h. Universities often do not know how many veterans or who the veterans are until they arrive on campus. This makes planning for their arrival, housing, and tutorial programs very difficult.
- i. Availability of affordable day care for dependent children.
- j. Opportunities for a spouse to pursue an education or obtain employment.
- k. Faculty training may be needed to prepare faculty members in dealing with veteran students. Problems seen in typical students attributed to immaturity may, in the case of veterans, be signs of greater problems that need attention. Symptoms of post traumatic stress disorder (PTSD), for example, may not manifest themselves until a veteran student is enrolled in classes.

The authors also believe that the participation of community colleges is necessary in this initiative and have sought to include community colleges in equal representation with the participation of four-year institutions. We have made the assumption that approximately 95% of those leaving the military will have at least a high school education but may need refresher mathematics and science courses before moving into a four-year undergraduate program. Similarly, we assume about 20% of those leaving the military will have either a bachelor's degree or some university/college experience. These students may also require mathematics and science refresher instruction, but to a different degree. Lastly, we assumed that there will be less than 5% of the military with advanced degrees that may wish to return to academic programs. These assumptions are based on information received through discussions with individuals from the Department of Defense and the military. We have sought demographic data from the military to support these assumptions, but have not yet been able to secure the data.

We envision the need for the development of multiple concentrated bridge training curricula to accommodate each of these groups – most likely offered in the summer prior to the academia year. These curricula will need to be based on the student's prior educational and military training background, their desired STEM field of study as well as the student's aptitude – thereby necessitating special academic counseling for this group. During the planning phase for this program, we had anticipated acquiring sufficient demographic data that would allow the consortium to develop several pilot summer curricula. This demographic data has been extremely difficult to obtain and the authors are not certain at this point that the data actually exists. We have made requests of the Department of Defense for answers to the following questions:

- Number of military personnel projected to exit the service (by service component) each year for the next five years
- Of the military personnel exiting – number expected to return to academia
- Educational background of those projected to exit (high school diploma or GED, bachelor's degree, Masters degree, PhD)
- Gender data - number of males and females
- Ethnic data - Caucasian, African American, Hispanic, Asian, other
- Military training data – number who have been trained in technical areas versus non technical
- Documents verifying any academic credit equivalency for military schooling

- Home state of record for those leaving the service (aggregate numbers - we are assuming that most will return to schools located near their home state)
- Number of those leaving the regular forces, National Guard, and reserves

In spite of several requests to various agencies within DoD and being told that the agencies were in support of providing us with the data, we have not been able to obtain any hard data. In fact, we have been told by some individuals that such data may not exist. The authors continue to seek such data and until we receive the data will continue to work under the assumptions previously stated.

Our final challenge is to garner the strong support of the industrial base and obtain their commitment to employ these students in intern or cooperative degree programs while the student pursues a degree. Such employment serves a dual purpose in that it can provide financial support during the summer months and can lead to a job offer following degree completion. Within Mississippi, there are numerous veteran friendly companies committed to supporting the veteran work force. We have worked with our Career Services Office to expand our base of opportunities for these students. The authors continue to work more broadly toward this goal.

While the list of challenges presented here is not intended to be comprehensive, we believe that they are certainly representative of those that we and other members of our consortium will face as we try to provide a success model for veteran students.

Implementation Strategies

While our local program implementation is still a work in progress, we have entered into a partnership with the Mississippi University for Women (MUW) and the Center for America's Veterans (<http://www.veterans.msstate.edu/>) located on the MSU campus to enhance our success. We are working with the Center for America's Veterans and the MSU Admissions Office to identify a cohort of students entering the in the Fall 2011 semester and assist them through an initial transition class. We conducted a prototype orientation class for veterans during the Fall 2010 which was highly successful and appreciated by the veteran students already enrolled in our programs. We are taking the feedback received from this class in the continuing development of the Fall 2011 offering.

Planned modifications to the course include adding material to address student success. Time management and stress management are important to all students but particularly so to veterans who may have greater family and job pressures than typical students. Study skills, to include learning styles, will aide these students in readjusting to academia. The seminar detailing the organization of the university and the responsibilities of faculty members was well-received and the veterans said it helped them better understand why it was sometimes difficult to meet with their professors.

We continue to work toward finding support for our veteran students to cover the summer financial gap that they will face. We are investigating the following possibilities to assist veterans in developing and sustaining interest in STEM research and application and to assist with solving the problem of not having sufficient funding during the summer months.

- **Cooperative education and internships:** Given the experience that these veterans will already possess, we anticipate that government and industrial employers will find them attractive as co-op students or interns. These programs can be structured for the summer or academic year involvement. At MSU, Career Services (includes co-op and internships) will facilitate the match between students industry.
- **NSF Research Experience for Undergraduates.** The NSF REU program could be investigated for use as a vehicle to support veteran undergraduates in research experiences while participating in STEM fields of study at their institution or at a partnering institution. At MSU, we have several REU programs each year within STEM fields of study and we will work with the PI's of each of these programs to involve veteran students. In addition, we hope to leverage other school's REU programs and involve out veteran students in their offering as applicable.
- **NSF Scholarship for Service support or DOD Information Assurance Scholarship Program.** MSU has offered both of these programs since 2001, which provide full scholarship support for students that focus their study in the area of information assurance and later serve the government as a civilian security engineer one year for every year of support. Veterans receive preference for these programs, which involves a research component. Participants also are employed by the government or DoD during the summer months.
- **Centrally-developed agreements with business and industry.** It may be possible to develop formal partnership agreements with major corporations and some government agencies that are willing to commit to participating institutions to employ these students in paid research positions during a part of the 12-month year. We have not explored this to any great extent as of the writing of this paper, but intend to do so in the coming months.

Working within our faculty community which consists of many with a military background, we will assign a mentor to groups of veterans. The role of the mentor will be to periodically meet with the veteran and advise them on university matters, explain university culture, and help them address the myriad of challenges that they will face as they transition from a highly structured organization into an academic culture.

Our initial interviews and discussions with others involved in veteran support have led us to the conclusion that the implementation of a "buddy system" would also be helpful. A buddy would be another veteran with a similar background and a willingness to share experiences. We are partnering with our Center for America's Veterans to implement a buddy system.

We plan to implement improved counseling for veterans where the academic counselor/advisory has an awareness of specific veteran needs and can assist with enrollment in tutorial classes, provide referral to veteran support organizations, and assist with early intervention when there are signs of distress or concern.

Working with our Center for America's Veterans, we know that the development of a sense of community within our veteran student base is helpful for their success. While we have not fully implemented this portion program as of yet, we believe it consists of veteran group activities and

community events that recognized their service and using them in an organized manner to celebrate events such as Veteran's Day, Memorial Day, and July 4th. We also believe veterans will feel comfortable contributing to community service projects.

Central to our success at MSU is our partnership with the Center for America's Veterans and its director. The Center for America's Veterans was established in 2007 with a goal to recruit veterans and provide them with counseling and guidance, academic advice, and mentorship, among many other benefits. The center is located on campus and has support staff and meeting facilities. We have partnered with the Center to provide the following support:

- Identification of entering veteran students and their focus of study. This will allow us to correspond with them early in the admission process and get students enrolled in the appropriate transition classes prior to the semester in which they begin classes.
- Assisting with the implementation of the "Veteran's Transition Academic Classes" (VTAC) program in the Fall 2010 semester and gathering data from that experience. The VTAC program supports learning communities of 15 students each in English, communications, and mathematics classes. Each student receives a \$200/month incentive stipend for attending (paid from university resources).
- Implementation of the mentor program for veteran students. A listing of faculty and academic staff willing to serve as veteran mentors will be used to assign mentors to each veteran participating in the program.
- Implementation of the "buddy" program. Each veteran in our program will be paired with another veteran.
- Development of the "sense of community" for the veterans. The PIs will work with the director of the Center to provide community-building opportunities.

Summary

This paper provides an overview of our support to the veteran community and our efforts to facilitate their success in STEM programs at community colleges and universities. We have formed a nation-wide consortium to assist and several programs will be developed as a result. The authors believe that a substantial benefit that could occur with this program is the increase of minorities, females, and historically underrepresented groups in STEM fields of study. Additionally, the veteran community comes to us as a highly motivated, mature, self-actualizing group of students that are very attractive to industry and government. Many have substantial technical abilities, training, and experience as well as high level security clearances in some cases. We have not yet completed this project and we hope to continue reporting on our results as the effort continues.

References

- [1] Post-9/11 GI-Bill, <http://www.gibill.va.gov/post-911/post-911-gi-bill-summary/>, accessed January 2011.
- [2] Veterans' Education for Engineering and Science, Report of the National Science Foundation Workshop on Enhancing the Post-9/11 Veterans Educational Benefit, April 13, 2009.

- [3] VA Stats at a Glance (November 2010), <http://www1.va.gov/vetdata/> accessed December 2010.
- [4] <http://www1.va.gov/VETDATA/Demographics/Demographics.asp> (Table 10L), accessed December 2010.
- [5] Black, D. et al, "The Labor Market Outcomes of Young Veterans," NORC, University of Chicago, 2008, pp. 54-56, [http://www.dol.gov/vets/research/NORCIII_Final_September%202008%20\(2\).pdf](http://www.dol.gov/vets/research/NORCIII_Final_September%202008%20(2).pdf).

ⁱ NSF Grant EEC-0951441, CCLI, titled "A Planning Grant Proposal for Transitioning America's Veterans to Science, Technology, Engineering and Mathematics (STEM) Academic Programs"

ⁱⁱ NSF Grant EEC-1037619, CCLI, titled "Implementation of a Pilot Program for Successfully Transitioning Veterans Entering STEM Programs at Mississippi State University"

ⁱⁱⁱ NSF grant number OCI-0753095