
AC 2011-122: ENHANCING GRADUATION RATES THROUGH HIGH IMPACT ACTIVITIES: EXPERIENTIAL LEARNING, ENGAGEMENT, MENTORING, AND SCHOLARSHIPS

Paul D. Plotkowski, Grand Valley State University

Paul Plotkowski is the Dean of the Padnos College of Engineering and Computing at Grand Valley State University. Extensively involved in experiential education, he is the recipient of the ASEE - CEED Service Award and is a Fellow of the American Society of Mechanical Engineers.

Jann Joseph, Grand Valley State University

Dr. Jann Joseph is the Associate Dean for Professional Development and Administration in the College of Liberal Arts and Sciences at Grand Valley State University (GVSU). She works closely with the professional colleges at GVSU to support student success as they move through the general education courses and into the professional programs. She is the PI of a NSF-STEM award to provide scholarships and high impact practices, like faculty mentoring and undergraduate experiences, that have increased student retention, graduation rates, and admission to graduate schools.

Enhancing Graduation Rates Through High Impact Activities: Experiential Learning, Engagement, Mentoring, and Scholarships

Paul D. Plotkowski, Ph.D.

Dean – Padnos College of Engineering & Computing

Jann L. Joseph, Ph.D.

Associate Dean – College of Liberal Arts and Sciences

Grand Valley State University

Abstract

Over the past several years, Grand Valley State University (GVSU) has developed and clearly articulated a model for student success. This effort has resulted in six year graduation rates increasing from just under 50% in 2005 to nearly 61% in 2010.

Central to increasing student achievement has been the implementation of the Blueprint for success model that uses “high impact experiences” and educational landmarks as a central theme. Among the demonstrated high impact experiences are experiential learning: cooperative education and internships, and engagement with faculty through research and mentoring. GVSU has a strong history of experiential learning with 45-48% of juniors and seniors typically enrolled in credit bearing experiential learning in any given year. Since introducing the blueprint for success that clearly identifies experiential learning as a significant educational landmark, participation jumped to 52-56% with impressive corresponding jumps in graduation rates.

In addition to their involvement in experiential learning programs, for the last four years the authors have also been the team leaders in an NSF funded S-STEM project. This program provides mentoring and scholarship support for students with high financial need during the final two years of their studies in Science, Technology, Engineering or Math. The program involves frequent mentoring by faculty, engaging students in faculty scholarly activities, and scholarship support. These elements combine to reduce the likelihood that students will decrease their course loads, work too many jobs, or even “step out” to earn sufficient funds to finish their education. The results of this program have been remarkable, with nearly 100% of these “at risk” students finishing their degrees in a timely manner.

Institutional Profile

Grand Valley State University (GVSU) was founded in 1960. The university is located in Greater Grand Rapids and is celebrating its 50 anniversary during the 2010-11 academic year. GVSU has always maintained a mission that gives primacy to undergraduate education complemented by targeted professional and graduate programs. The university was based upon and continues to integrate an extensive liberal education approach for all students. Although a young institution, GVSU has become one of the largest “Masters / Comprehensive” universities in the country with a current enrollment just over 24,500 students (21,000 undergraduate and 3,500 graduate). The institution enrolls roughly 95% of our students from Michigan (every county is represented) and the remaining students hail from roughly two dozen other states and a similar number of foreign countries.

Student Profile

Grand Valley is fortunate to be frequently recognized by several national publications as providing a very high quality undergraduate experience at a “best value” tuition level. Because of this we experience high demand for admission. Typically there are over 15,000 applications for entry into our freshman class of 3,600 – 3,700 per year. This has resulted in a population of well prepared students with an average high school GPA of over 3.6 and an average ACT score of over 24¹.

While talented, our students also exhibit many characteristics that are typical indicators for higher risk and lower completion rates. These include:

- 42 % of our students are in the first generation of their family to attend college
- 36% of our graduating class receive Pell grants
- 75% of our seniors work at least part-time, with 32% working over 20 hours per week and 11% working over 30 hours per week
- Anecdotal evidence indicates that, particularly in our highest need populations, a substantial number of students are “stepping out” to earn the funds needed to pay tuition. This pattern escalates in the final two years of a student’s education.

For classes entering through the late 1990’s, these factors combined to result in a six year graduation rate that hovered at just under 50%. This data was consistent with national statistics for similar institutions.

A Coordinated Effort to Enhance Student Success

Over the last several years, GVSU has been pursuing a thoughtful and integrated strategy to enhance the academic success and the subsequent graduation rate of our students. A university-wide working group was established and continues to meet. Our effort has been based, in part, upon the body of work speaking to “Student Success Models”^{2,3} and the LEAP Project (Liberal

Education and America's Promise) of the Association of American Colleges and Universities (AAC&U)^{4,5}.

A major theme of the LEAP project is the use of "High Impact Educational Practices." These practices include activities such as:

Freshman Seminars and Experiences	Common Intellectual Experiences
Learning Communities	Writing Intensive Courses
Collaborative Assignments and Projects	Undergraduate Research
Diversity/Global Learning	Service / Community Based Learning
Internships	Capstone Courses and Projects

In reviewing the programming at GVSU, the working group noted that the university employs all of these elements. The degree to which these are included for a particular student, however, depends upon each student's academic program.

One of the most significant "Ah-Ha moments" for the working group was when we recognized that while each of us was aware of extensive efforts and programming in our respective areas of the university, none of us was aware of the remarkable body of work taking place across the institution. Our second (now obvious) observation was that, if we as "well informed members of the university" were not each aware of the array of programs, they were certainly not obvious to the broader faculty and staff, and most importantly, to the students.

The working group established the two major goals of enhancing/expanding the use of high impact activities across the university, and developing a clear and highly visible "Blueprint for Success" for our students⁶. The Student Success Model that was developed centers on efforts at GVSU is to "engage, challenge, and support" our students. The Blueprint identifies the high impact experiences available to our students, the recommended timing for each during his or her academic experience, a number of very clear benchmarks that indicate that a student is on track for success, and the metrics utilized by the university to assess progress. Each year of the Blueprint clearly delineates the "Engage, Challenge, and Support" activities. One year of that Blueprint is shown in Figure 1.

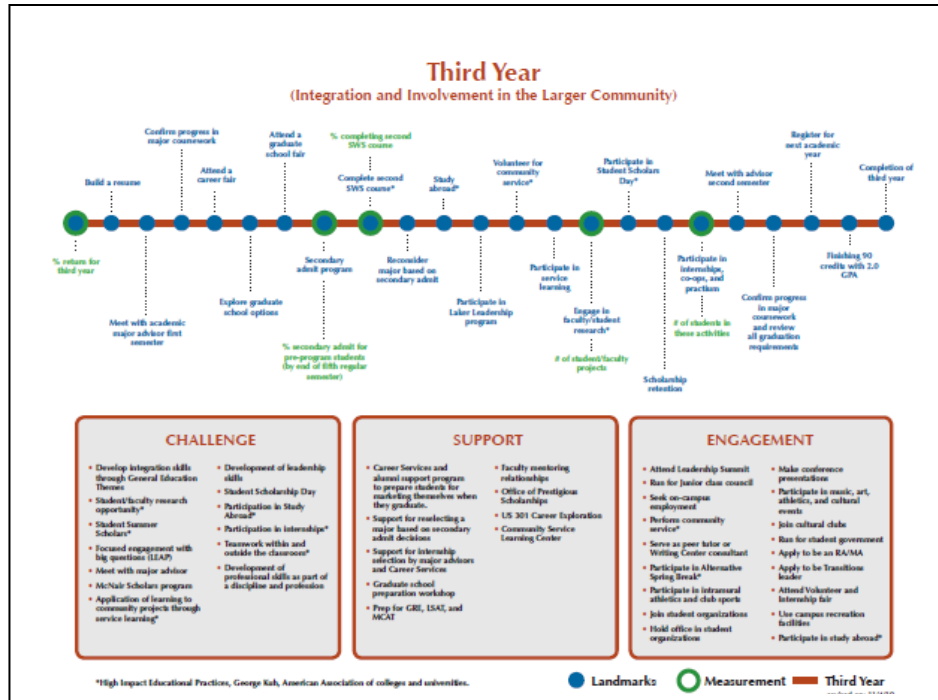


Figure 1: Blueprint for Success – Junior Year

Critical to the success of the Blueprint for Success has been establishing high visibility of this program among students and parents, faculty and staff. Getting this information in front of each audience and creating high visibility for critical activities has helped substantially expand student participation in these activities, and in turn improve student success and graduation rates. Efforts to accomplish this visibility have included introduction of the Blueprint at both student and parent orientations, extensive use by advising centers across the university, and publication of the Blueprint in student guides.⁷ This effort has also been supplemented by the software platforms MyPath and MapWorks that provide student planning support throughout every student’s academic career.

Example Enhancement / Expansion Element – Experiential Learning

GVSU has a strong record of experiential learning. Typically, 45 – 48% of juniors and seniors enrolled in credit bearing experiential learning in any given year. Many academic programs require senior research projects, co-operative education, or an internship. Moreover internship programs are available for nearly every academic major.⁸

Efforts to enhance experiential learning have included:

- Increasing the number of academic programs in which experiential learning is an integrated element - Since the introduction of the Blueprint project an integrated / mandatory internship component has been introduced in undergraduate majors including

computer science and information systems and has been designed into graduate programs such as biomedical engineering.

- Improving the readiness of students for an experiential learning program – For many years, a preparatory course has been taken by students prior to their co-op program in engineering. This course has been used as a model and has been replicated for the majors with a newly introduced experiential component. These courses are a team offering of the home academic unit and the university Career Services Office.
- Additional Resources – Expansion and enhancement of experiential learning experiences was not possible without additional resources. The most significant additional resources were the addition of staff lines in the Career Services Office and the recognition of student preparation and supervisory activities by faculty as worthy assignments within faculty teaching loads.

Since introduction of the blueprint for success that more visibly identifies career planning and experiential learning as significant educational landmarks, participation in experiential education jumped from historical levels of 45 – 48% of juniors and seniors enrolled in credit bearing experiences to 52 – 56%. Over the same five year period, graduation rates increased from under 50% to nearly 61%.

The expansion in student participation in experiential education did not occur in isolation. Thus, it is not possible to establish a direct cause and effect relationship between the two. Anecdotal evidence indicates however that well prepared participation in experiential education assists in student success through:

- Providing greater insight into career paths
- Greater engagement with both faculty and career professionals
- Enhancing student motivation toward academic and career success
- Students who participate in compensated co-op or internship programs substantially reduce the “stepping out to finance my education” behavior

Example Enhancement / Expansion Element – S-STEM Program

As discussed earlier, GVSU attracts a very talented pool of students. A very large portion of these students major in the Science, Technology, Engineering, and Mathematics (STEM) fields. A substantial concern of the authors; the Dean of Engineering & Computing, and the Associate Dean of Liberal Arts and Sciences (and a biologist), has been the slow time to graduation by students in the STEM fields at GVSU. This was identified to be particularly problematic among high financial need students.

It is well documented that programs of study in the STEM fields include:

- More credit hours to graduate than liberal arts programs
- Extensive structure and prerequisite requirements that limit flexibility

- Extensive laboratory components that increase the number of contact and study hours expected of students and leading to very long school days

In addition, it was identified that the demographics of the GVSU student population play a significant role in the completion rate in STEM degree programs. For example, our high rate of “first generation to college” students means that many of our students have little parental knowledge of, or planning for college. This frequently leads to insufficient planning for the full cost of college attendance. Similarly, lack of family knowledge of the functioning of a university often results in the lack of student awareness regarding programs and resources that are available, and the importance of capitalizing on high impact activities.

The combination of the challenges associated with completing STEM degrees and the background of the students at Grand Valley led the authors to recognize a common set of behaviors among many high need students. These include:

- Trying to finance college by working – frequently through multiple part-time jobs and even full-time employment
- The need to work in turn creates a situation in which students cannot spend sufficient time on campus to interact with faculty or participate in high impact activities
- A substantial number of students “step out” from school – that is, take classes for a semester or two and then stop taking classes until earning enough to return to the university.

These behaviors are most prevalent after students have completed two to three years at the university. Our conclusion was that the savings that were intended to finance four years of school were being depleted much earlier than expected. Further, this was occurring exactly at the time in the educational programs for which many of the high impact activities are planned.

To address this challenge, the authors proposed and received a grant from the National Science Foundation under the S-STEM program (NSF Award No. DUE-0630994). The intent of this project has been to improve time to graduation for high need STEM students by providing financial assistance and connection with high impact opportunities during the final two years of their programs. To qualify for this program, applicants are required to have completed the first two years of a STEM discipline with a GPA of 3.0 and demonstrate financial need via Pell eligibility criteria.

The major elements of this program include:

- Scholarship support of \$500 - \$5,000 per year (based upon need)
- Mentorship by a faculty member in the students home department
- Networking with high impact programs
- Financial support to engage in research and scholarly activities

- Group activities to engage with other S-STEM participants
- Advising and graduate school preparation activities

This project is currently providing student support for our fourth year, and the results have been outstanding. During the course of the project, we have been able to engage a total of nearly ninety students. To date, nearly 100% of the participants have graduated or on track to graduate.

A key element of the S-STEM program is faculty mentoring. Mentors meet at least once a month with their mentee for coffee/lunch (a campus meal card is provided) with their mentee. They encourage their mentee(s) to attend on-campus events and discipline-related conferences. Faculty mentors also monitor and provide guidance to ensure that students complete their degrees in a timely manner. Additionally faculty mentors share information and help students with applications for graduate school, and for many students the faculty mentor also supervises their undergraduate research projects and independent studies.

We continue to track our students after graduation through an exit letter and a short survey and the feedback from the students has been insightful. We believe our most important question on the survey is: Would you participate in the program if there was no financial benefit? While some students say that the most important aspect is the funding, we noted that a majority mentioned the support programs as very important, and several explained the impact of the faculty mentoring and asked us to continue it. The following comments are a sample of responses:

- Having a faculty member as a guide is critical...
- My mentor was extremely nice, friendly, genuine, and understanding.
- Faculty mentor was good resource for obtaining useful information for grad school.

We also asked students to provide feedback about the impact of the program. The following comments are representative:

- Doing research with my faculty mentor helped a lot in understanding a specific area of statistical research.
- It allowed me to look over details of my program to ensure timely graduation.
- I will attend grad school in the fall to obtain an PhD in Chemistry
- The grant has allowed me to focus on long term career goals and taking actions to reach them, rather than spending this energy on a job that isn't as career oriented.
- Before, I was ready just to be done with college as soon as I received my BS. After being in this program I've learned how important it is to continue my education.

The GVSU NSF funded S-STEM program started with the goal of helping students surmount the hurdles in the last two years of college and graduate. We worked hard to develop and implement support programs including carefully recruited and trained faculty mentors. We encouraged students to meet with mentors biweekly to discuss issues related to their academic and future

careers. We helped them stay focused on their plans and goals to meet graduation requirements and helped them understand how to pursue successful STEM careers in graduate school and beyond. While the latter started as a small but significant aspect of the program, it grew tremendously because of student interest and faculty support. As we move into the final year, it is a key element of the program. NSF S-STEM scholars have contributed to GVSU's growing reputation for preparing undergraduates for success in graduate school.

Lessons Learned

Several years of coordinated efforts have produced substantial improvement in the academic success and graduation rates among students at Grand Valley State University. The use of a clearly articulated student success model provided the basis for these efforts. Essential components of this effort have been the high visibility of the graphic Blueprint for Success and the associated high impact activities. Effective implementation of the Blueprint required an early introduction to the students, frequently revisiting this tool throughout each student's academic career, and providing the resources to capitalize on the high impact experiences.

For students with limited familiarity with college practices, and high financial need, awareness of, and access to high impact experiences is not sufficient. Even if they understand the value of these activities at an intellectual level, financial and emotional barriers frequently prevent participation. For these students additional support is required. Engagement with faculty as mentors to provide motivation and guidance to university opportunities are recognized by the student's as perhaps the most critical element.

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