Increasing Retention in Science, Technology, Engineering, and Mathematics

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In 1995, the science, technology, engineering, and mathematics (STEM) departments at Bowie State University were struggling to attract and retain students. That year, STEM enrolled 354 students but retained only 35-40%. As a result, faculty and the administration intervened and implemented the Model Institutions for Excellence (MIE) Initiative, a NASA-funded project that includes a summer academy, scholars program, fellowship program, partial assistantship program, and tutoring center. The over-arching goals of the initiative are to (a) increase enrollment and retention; (b) decrease time-to-degree from six to four years; and (c) increase diversity, including women, in STEM disciplines. This article describes the various programs in the initiative and highlights areas of success.

The STEM Summer Academy is a six-week, residential program designed for students who have been accepted to the university and have declared a major in one of the STEM disciplines. The majority of students do not place into college algebra. Students enroll in two courses for credit. Additionally, they take two non-credit courses to enhance their mathematical and computer or English skills. They also attend academic and personal skills workshops (e.g., reading dynamics, time management). Mentoring and tutoring are provided by peer mentors, faculty, and peer tutors from the PRISEM (Preparation, Resources, and Information in Science, Engineering, and Mathematics) Tutoring Center during the Summer Academy and throughout the academic year. At the end of the Academy, students take a post-math placement test. For the past 10 years, 70-80% of the participants have placed at the college level of algebra or higher after completing the summer program (Figure 1, p. 2).

The RISE (Retention in the Sophomore Experience) Program is a summer enrichment course where rising sophomores catch up or move ahead in their specific STEM curriculum. Students enroll during the summer after completing their first year in gate-keeping courses (i.e., required entry-level courses pertinent to their major). Peer mentoring and tutoring and intense advising are integrated in the RISE Program. Moreover, students are monitored by an early intervention program, SafetyNet, to ensure that they make progress toward their degrees in a timely fashion. Students are strongly encouraged to seek tutoring, and thus far, 40% of the students take advantage of this opportunity to enhance their academic status.
The Fellowship Program provides partial tuition assistance that is matched by the University, as well as a stipend. Fellows must (a) maintain a GPA of 3.0 and above; (b) participate in research and present their data at least twice a year at regional or national meetings; (c) participate in summer or winter research internships; (d) participate in various workshops, seminars, and other activities related to their major; and (e) not accept employment on or off campus. The Program provides seminars, graduate and professional school visits, research opportunities, and travel funding for various conferences and meetings. The number of students participating in Summer Research Internships has increased from about four students in 1995 to nearly 70 in 2005.

The Partial Assistantship Program is an academic program for students who conduct activities in the STEM departments (e.g., as office assistants, lab assistants, or lab monitors) but who are not majoring in a STEM discipline. No student is allowed to work more than 15 to 20 hours per week, and participants must maintain a GPA of 2.7 or higher.

The PRISEM Tutoring Center provides supplemental education. Students in STEM disciplines are tutored by peer tutors and faculty through one-on-one or small-group sessions. Online tutoring assists students who cannot come to the Center, and satellite tutoring is offered in residence halls and other campus facilities as needed. The Center also holds study marathons during final examination weeks that bring students, peer tutors, and faculty together in a fun learning environment.

The components of the MIE Initiative have been assessed through (a) one-on-one student, faculty, and mentor interviews; (b) surveys; and (c) feedback from stakeholders. The results are used to improve, implement, or redirect efforts. Changes based on assessment include extending the tutoring center hours, offering tutoring at various sites around the campus, and offering at least one STEM course during the Summer Academy. Both faculty and students have given positive feedback. Students are pleased with the opportunities to collaborate with research installations, travel to various scientific meetings, receive mentoring, and use supplemental academic support. Faculty and research mentors have commented favorably regarding the preparation of the students, their knowledge base, their willingness to learn, and their overall performance. Beyond this, the MIE Initiative has reached each of its goals:

- Enrollment has increased to more than 1,135 STEM students.
- The rate of retention has increased to 78-80%.
- The number of students graduating has increased from 54 (1995) to 123 (2005).
- The majority of students complete their degrees within four or five years.
- The number of students either seeking or interested in acquiring a graduate degree has increased from 35% (1995) to approximately 80% (2005).

The MIE Initiative at Bowie State University is a series of programs and activities designed to improve student performance in the STEM disciplines and support students through graduation. The focus on students and their involvement in a meaningful and nurturing environment confirms that Just as it takes an entire village to raise a child, it takes an entire university to educate a student.

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Seven Central Principles of Student Success: Key Processes Associated With Positive Student Outcomes


1. Personal Validation
Student success is more likely to be realized when students feel personally significant—i.e., when they feel welcomed by the college, recognized as individuals, and that they matter to the institution. In contrast, student success is sabotaged by institutional practices or policies that depersonalize or marginalize students (Schlossberg, Lynch, & Chickering, 1989). Personal validation is particularly critical for the success of underrepresented students (Rendón, 1994).

2. Self-Efficacy
Student success is more likely to take place when students have a strong sense of self-empowerment or self-efficacy, i.e., when they believe that their personal effort matters and that they can exert significant influence or control over their future success (Bandura, 1997). Conversely, the likelihood of college success is reduced when students feel hopeless or helpless.

Meta-analysis research suggests that academic self-efficacy is the best predictor of student retention and academic performance in college (Robbins, et al., 2004), and personal traits such as self-efficacy, self-esteem, and internal locus of control are among the best predictors of job performance and job satisfaction (Judge & Bono, 2001).

3. Sense of Purpose
Student success is more likely to occur when students find purpose in their college experience, and when they perceive relevant connections between their educational experiences and their life goals. In contrast, lack of personal goals for the college experience and perceived irrelevance of the college curriculum are major causes of student attrition (Noel, 1985; Levitz & Noel, 1989).

4. Active Involvement
The probability of student success depends on the degree of student engagement in the learning process, i.e., the amount of time and energy students invest in the college experience—both inside and outside the classroom (Astin, 1984). In contrast, student passivity or student disengagement is likely to reduce the quality of students’ academic performance and the probability they will persist in completing their college degree.

Data gathered by the Higher Education Research Institute reveals that those pedagogical practices most strongly associated with student satisfaction with the quality of instruction received in first-year courses are practices that emphasize student involvement (Keup & Sax, 2002). Similarly, use of “engaging pedagogy” in first-year seminars is positively associated with students’ course satisfaction and self-reported learning outcomes (Swing, 2002).

Research also indicates that student involvement outside the classroom is a potent predictor of student success. For instance, student use of support services and student involvement in co-curricular experiences are...

5. Reflective Thinking
Students are more likely to experience success when they make connections between what they are attempting to learn in college and what they already know or have previously experienced. Successful learning requires both action and reflection. Reflective thinking or quiet deliberation is the flip side of active involvement; both of these mental processes are needed for deep learning to take place (Ewell, 1997). Active involvement is necessary for engaging attention—which enables information to enter the brain’s working memory, and reflection is necessary for securing consolidation—which stores that information in the brain, locking it into long-term memory (Bligh, 2000).

6. Social Integration
Studies consistently show that students who are “socially integrated” or “connected” with other members of the college community are more likely to complete their first year of college and continue to degree completion (Tinto, 1993). For instance, relative to commuting students, retention rates are significantly higher for residential students who live together on campus and for students living in fraternities or sororities (Terenzini, 1986). In contrast, feelings of loneliness, isolation, or alienation are likely to contribute to student attrition.

7. Self-Awareness
Students are more likely to succeed when they gain greater self-awareness of their learning styles and habits, their thinking patterns, and their personal attitudes, interests and values. For example, research demonstrates that higher-achieving students tend to be more aware of the thought processes they engage in while they learn and are more aware of the cognitive strategies they use to learn, i.e., they engage in “meta-cognition”—they think about their own thinking (Weinstein & Underwood, 1985).

Successful college students are also more likely to “self-monitor” their academic performance, that is, they maintain awareness of whether or not they are actually learning what they are attempting to learn (Weinstein, 1994), and they are more likely to self-regulate or adjust their learning strategies in ways that best meet the specific demands of the subject matter they are trying to learn (Pintrich, 1995).

Conclusion
In sum, success is more likely to take place when students (a) feel personally validated and that they matter to the college; (b) believe that their effort matters and that they can influence or control their prospects for success; (c) develop a sense of purpose and perceive relevance in the college experience; (d) become actively engaged in the learning process and in the use of campus resources; (e) think reflectively about what they are learning and connect it to what they already know or have previously experienced; (f) become socially integrated or connected with other members of the college community; and (g) maintain self-awareness of their learning styles, thinking patterns, attitudes, and habits.

The next edition of this column will explore how these seven central principles of student success may be implemented most effectively during the first year of college.

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References


Highlights From the 2006 National Survey of First-Year Seminars

Colleges and universities nationwide are actively engaging their students with first-year seminars that help meet a variety of student needs, and the seminars are producing notable results, according to a recent survey by the National Resource Center for The First-Year Experience and Students in Transition. In November 2006, the Center undertook its seventh triennial national survey of first-year seminars in American higher education. This article offers a snapshot of survey findings.

Regionally accredited colleges and universities with undergraduate students and lower divisions were invited to participate. Of the 2,646 institutions that were e-mailed an invitation, about 37% responded. Of that number, 821 institutions or about 85% responded that they offer first-year seminars. Approximately 60% of the participating institutions indicated that they have formally evaluated their seminars since fall 2003.

Extended orientation first-year seminars are offered by the majority, 57.9%. However, an increasing number of institutions offer academic seminars. More than a quarter, 28.1%, offer academic seminars with generally uniform content across sections, and an additional 25.7% reported that they offer academic seminars on various topics. About 20% of the institutions reported that they offer hybrid seminars that include elements from academic seminars, pre-professional and discipline-linked programs, and programs emphasizing basic study skills (Table 1).

The bulk, 46% of institutions, reported that they require their first-year seminars for all first-year students while 34.6% require some, but not all, students to take the seminar course. The remaining 19.4% of responding institutions reported that they don’t require any of their first-year students to complete first-year seminar courses.

At 90% of the responding institutions, faculty members teach first-year seminars. The second highest group of instructors are student affairs professionals as reported by 45.2% of responding institutions. More than a quarter of institutions, 26.8%, said their first-year seminar courses are taught by “other campus professionals.” A small percentage of reporting institutions indicate that their courses are taught by undergraduate and graduate students.

The survey found that the five most important topics that make up the content of first-year seminars are (a) study skills, (b) critical thinking, (c) campus resources, (d) academic planning/advising, and (e) time management (Table 2, p. 6). The seminar courses, the institutions report, aim to meet the following objectives rated in order of importance: to develop academic skills, to provide an orientation to campus resources and services, and to provide an avenue for self-exploration and personal development. Additionally, 40.2% of institutions report including service-learning as part of their first-year seminars.

The seminars have positive results, according to the 60.2% of respondents who said they have formally evaluated their programs since fall 2003. The bulk of the evaluating institutions, 43.4%, report an increase in student persistence to the sophomore year;
almost 42% report improved peer connections; and 38% report that seminar students are more satisfied with the institution. Increases also were reported in student satisfaction with faculty, academic abilities, persistence to graduation and grade point average.

An executive summary is available at http://sc.edu/fye/research/surveyfindings/surveys/survey06.html. Complete results of the 2006 national survey will be available as part of The First-Year Experience Monograph series in 2008.

Table 2
Most Important Course Topics (N = 821)

<table>
<thead>
<tr>
<th>Course Topics</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study skills</td>
<td>40.8</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>40.6</td>
</tr>
<tr>
<td>Campus resources</td>
<td>38.1</td>
</tr>
<tr>
<td>Academic planning/advising</td>
<td>36.7</td>
</tr>
<tr>
<td>Time management</td>
<td>28.6</td>
</tr>
</tbody>
</table>

Note. Percentages add up to more than 100% because survey respondents were asked to identify the five most important topics that make up the content of their first-year seminars. The five most frequently reported topics are included here.

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Forming Connections: Combining Orientation and Community Service

New student orientation is about easing the transition to college, creating opportunities for academic connections, and introducing students to their peers to form friendships. Yet students may feel apprehensive, nervous, and even homesick as they assimilate to this new college environment. Participating in service as part of orientation can ease tensions associated with the transition and allow students to form connections early in their college career. Students are also introduced to the concept of responsible citizenship, a component of many institutional mission statements.

A recent thread on The First-Year Experience (FYE) listserv focused on the types of service activities included during orientation. As a follow-up to that conversation, I contacted listserv participants for more in-depth examples and approached staff on other campuses to gain a more comprehensive understanding of the role of civic engagement in new student orientation. This article details some common approaches to incorporating service into orientation activities.

Partnering with local agencies to create a large one-time service event is a common way to include service during orientation. Since 2003, the State University of New York-College of Environmental Science and Forestry (SUNY-ESF) has hosted a Saturday of Service with the local Parks and Recreation Department in Syracuse, NY to engage approximately 300 students in three- to four-hour clean-up projects. Although not mandatory, the service project is part of orientation and purposely planned when there is little else scheduled to encourage student participation. The students are divided into smaller groups and are supervised by an orientation leader who acts as a resource for the agency representative when needed. In the past, the program has received local business sponsorship for transportation, food, T-shirts, and work supplies. The program has consistently been rated by students as their “most favorite” part of orientation and is continued through the school year in Evolutions, the first-year experience program.

Taking the idea of a large service event one step further, Hands for Change at Concordia College, a small religiously affiliated institution in Moorhead, MN, combines the importance of service to the community with responsible citizenship. Hands

See CONNECTIONS, p. 8
Service during Kick Off Clemson, the welcome week where students can engage in on- and off-campus projects. Smaller service events can also be popular evening activities during the overnight summer orientation where students can create bookmarks to be donated with the supplies. Additionally, students have the opportunity to continue serving their local community with the Freshman Day of Service during Kick Off Clemson, the welcome week where students can engage in on- and off-campus projects. Smaller service events can also be popular evening activities during

**ITEMS TO CONSIDER WHEN PLANNING A SERVICE ACTIVITY DURING ORIENTATION**

**PLAN AHEAD.** Talk with agencies early, reserve transportation, and solicit faculty and staff opinions about programming and participating.

**INVOLVE KEY PLAYERS.** Involve the campus service-learning office, community partners and agencies, event services, budget managers, faculty, facilities, and transportation staff.

**BUDGET FOR FOOD AND EXTRAS.** Consider meals and beverages, safety equipment, and other requirements needed for the project.

**SELECT VERSATILE SITES.** Choose sites with an equal amount of indoor and outdoor locations; furthermore, prepare at least one large activity on campus for late students or as a rain-out location.

**CHOOSE LOCAL AGENCIES.** Work with known agencies because they will know what skill level to expect from the students. Questions to consider, “What supplies do they provide? How many students can they accommodate?”

**CONSIDER THE TIMING.** Will the service activity take place during summer orientation sessions or right before the start of classes? What time of day makes most sense for participants and for the agency involved? Most agencies will find it less of a burden to host service events during normal business hours, rather than at night or on weekends. However, for certain types of service projects non-business hours may be preferable.

**CONSIDER STUDENTS WITH DISABILITIES.** Find out which sites might find it hard to accommodate certain student needs.

**INVOLVE FACULTY.** Ask them to lend their tools or work supplies for the project. They might want to join the fun.

**COLLECT MEDICAL INFORMATION.** It is important to know the students’ allergies, medications, and emergency contacts.

**ADVISE STUDENTS ON APPROPRIATE DRESS.** During registration inform students that they may get dirty and should wear closed-toe shoes.

**ALLOW FOR FLEXIBILITY.** You might be told about one project you will work on, but that may change if the agency had a different group complete it the day before.

**KEEP A RECORD.** All agency site numbers and site leader cell phone numbers should be accessible. Have at least one person at home base serving as the contact person for emergencies.

**INTENTIONALLY REFLECT ON THE ACTIVITY.** Will your reflection be led by orientation leaders, faculty/staff, or both? Do you want the reflection to tie into the orientation theme? Train you site leaders thoroughly to facilitate this component.

**CAPTURE THE FUN!** Have someone take pictures and post them to the office web site. Students will search for themselves while being exposed to the resources offered on the web site at the same time.
summer orientations. The Office of New Student Orientation at Jacksonville University, FL, has kept their service component on-campus by creating “birthday parties in a bag” for local shelters. The students decorate and stuff bags with donated items such as balloons, cake mix, icing, streamers, disposable cameras, and party hats. The bags are then given to families in shelters who may not be able to afford party supplies for their children. Not only are the students helping those in need, but they are also connecting with other incoming students during the down time at summer orientation.

Intertwined in all of the programs is the need to provide a service project that will encourage students to give back to their community and continue their campus engagement upon matriculation to the university. According to Leah Flynn, assistant director of student activities at SUNY-ESF, “The key to this reciprocal relationship is to ensure that students realize the importance of what they are doing for a city that is very new to them and that they have the opportunity to get to know others they work side by side with.” Thus, civic engagement and community service during orientation is an important community builder that can help ease the transition for incoming students while introducing them to institutional values surrounding service.

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Bringing Diversity Education to the College Campus

With a student population of approximately 16,000, Sam Houston State University (SHSU) in Huntsville, TX, is continually and effectively increasing its programming for underrepresented student populations. And with reason — more than 25% of their students are minorities. According to the National Center for Education Statistics, minority enrollment in American colleges as of fall 2004 represented about 30% of the total student population. This is a considerable increase since the mid-1970s when minority enrollment was at about 15%. This increase highlights the need for more programming and educational opportunities for minority students, as well as for those students interested in gaining a better understanding of the various cultures and ethnicities that make up their campus’ student population.

The office of Multicultural and International Student Services (MISS) at SHSU was created in 1993 to further expand diversity education among college students, faculty, and residents of the surrounding city. The goal of MISS is to instill a level of mutual respect among students, faculty, and staff on campus. Programming is designed to help students think critically about the world around them. The idea of “acceptance” versus “tolerance” and truly embracing other’s differences is crucial to diversity education. This broad goal of inclusion, between, within, and outside of various cultural groups is what makes MISS so successful in educating the student population about diversity issues. No one is an “outsider” and everyone can learn something about himself or herself in the process of understanding others.

Among the priorities outlined by the office are (a) providing services and unique programming for traditionally underrepresented populations, including minority and international students, women, students with disabilities, and sexually diverse groups; (b) educating all students about what diversity truly means and giving them the knowledge and training required to promote social justice in all areas of diversity including culture, gender, physical ability, race, religion, and sexual orientation; and (c) encouraging an appreciation for and celebration of diversity in all of its unique forms. Meeting these goals is imperative in order to foster acceptance among diverse groups on campus.

Since its inception, MISS has grown and matured according to the needs of each new generation of college students. Every month, a minimum of two to three programs dealing with diversity topics and multicultural issues are scheduled outside organizational activities. These monthly programs include the popular “Taste of SHSU” in which a different country’s culture and food are highlighted each semester and the MISSconceptions seminars, which are presented throughout the school year on a variety of subjects. The upcoming fall 2007 MISSconceptions seminars include debates on the morality of homosexuality, the difference between African and African American culture in America, weight discrimination, and third-world religions.

MISS is continually looking for ways to spread the word on campus about diversity education programs available to students, faculty, and staff. Many programs are advertised via posters around campus and through word of mouth from the many volunteers who support MISS. Frequently, MISS will also recruit volunteers to hand out flyers. This has been very effective in getting people interested in what programs are being presented and in adding a more personable approach to advertising for events.

MISS sponsors and advises several student-led organizations that host their own programs throughout the year. These student organizations include SAMentors, Students on a Quest for Unity and Diversity (SQUAD) and Diversity Council. In conjunction with MISS, these groups organize unique multicultural programs and help make the sometimes overwhelming goal of spreading acceptance on campus a reality.

SAMentors is a mentoring group that pairs first-year students with upper-level students to better prepare them for college life, classes, and living away from family and friends. Many students involved in SAMentors remain good friends even after their first-year
keynote speakers who highlight and discuss topics ranging from contemporary diversity issues to leadership skills and strategies among college students — regardless of culture, gender, race, or sexual preference. Full-day workshops allow conference participants to choose from a variety of hour-long presentations by different student groups, faculty members, and guest speakers. This past February, the conference workshops took a more in-depth look at specific diversity issues, such as disability etiquette, cultural stereotypes, as well as prejudices within racial groups.

The Diversity Leadership Conference is a unique program among college campuses today. Each year, the conference hosts diversity speakers from across the state and country, and the point that these speakers continually make is that very few American universities — public or private — have made diversity education as a whole (something altogether different from gender or race-specific education, for example) a priority through campus conferences. The Diversity Leadership Conference, started in 2005, is the first of its kind in the state of Texas.

When students attend and volunteer for the variety of multicultural programs sponsored by MISS throughout the semester, they become eligible to receive Multicultural Awareness Certification (MAC). This certification is achieved when students, faculty, or staff complete the volunteer and time requirements of either attending a full day of workshops at the Diversity Leadership Conference or volunteering in three or more diversity programs. Each semester, an awards ceremony is held for those students who have completed the certification process. The MAC awards are a prestigious achievement because they honor those students and faculty members who have made an effort to gain further knowledge about a variety of diversity issues. The MAC award makes diversity awareness and education stand out as an important and worthwhile commitment to bettering oneself in the college community.

With a strong purpose and conviction for opening the minds of the ever-growing student population at SHSU, MISS is continually looking for ways to foster deeper intellectual understanding of contemporary diversity issues on campus. Due to the genuine interest and enthusiasm shown by those who attend MISS cultural events throughout the year, it is evident that the goals set out by the office are being met and, more importantly, are continually expanding and maturing to meet the needs of the students and faculty who are served by the office.

Currently, the office is undergoing further assessment of its programs in order to keep up with new requests and diversity interests. After specific events, such as the Diversity Leadership Conference, participants are encouraged to fill out evaluation forms and comment on program effectiveness. By reviewing those programs that have brought continued participation and interest on campus over the past year (based on attendance statistics and the number of students who have expressed interest in volunteering for certain events with the office), MISS can better gauge how to continue to provide entertaining...
Many undeclared students have a limited view of which majors prepare them for specific careers and have limited experience with or information about the world around them. An informal poll of undeclared students at Kutztown University, done through a show of hands at the beginning of the first-year seminar, revealed that the majority of undeclared students do not read the newspaper on a regular basis. Believing that current events can be a career exploration tool when used as a springboard for student research, reflection, and class discussion, the Advising Center for Undeclared Students at Kutztown University incorporates newspapers into its one-credit, first-year seminar specifically designed to help students explore majors and careers.

The activity, Finding a Career in the Newspaper, asked students to read news articles, identify and learn about the careers of the people involved, and discover new careers made necessary because of what is going on in the world. After reading each article, students answered the following questions, in writing, prior to class discussion:

- What is the article about?
- What people are cited in the article?
- What does each person have to do with the story?
- What career do you think each person has?
- What majors do you think each person could have had in order to pursue their current field?
- What else do you want to know? (Students would come to class with at least one question answered after conducting research in the career services office, the library, or online.)

Throughout the semester, students explored various majors and careers by content areas, such as psychology and physical sciences. Likewise, students found and were provided articles that covered a broad spectrum, from international affairs to sports and entertainment. For example, the students read articles about the E. coli outbreak from contaminated spinach. Many of the students did not know that an E. coli outbreak was occurring, but beyond that, the articles they read exposed them to careers in epidemiology, the Food and Drug Administration (FDA), and agricultural science. Students discussed possible majors that could lead to careers in these fields, such as biology, chemistry, statistics, and public health. They also learned just what an epidemiologist does and what agricultural science actually entails. Likewise, students interested in forensic science were surprised to know that the FDA does similar types of investigations through their Office of Criminal Investigations.

Throughout the course, students kept their completed assignments and copies of the articles in binders for future reference. At the end of the seminar, the students (N = 65) were asked to answer these questions: (a) Do you feel the readings helped you explore majors and careers? Yes or no? Why or why not? and (b) Did relating the readings and content areas to current events help you think about majors in new ways? Yes or no? Why or why not? We found that 70% of students felt the readings helped explore majors and careers, and 74% said it helped them to think about majors in new ways. Selected student comments illustrate these findings:

- “The readings gave perspective on what skills and academic abilities you’ll need for certain careers.”
- “They made me aware of things I didn’t know you could major in.”
- “They helped put ideas of what jobs you can get with a specific major.”
- “They showed with certain majors you can get all kinds of jobs.”
- “It was easier to see how the majors were applied.”
- “They were more relevant to real life.”

Eight of the undeclared students who completed the seminar declared their majors at the end of the fall semester. Twenty-one students responded to an online survey sent at the end of the seminar.
California State University, Northridge (CSUN) welcomes first-year students throughout the southern California region but, as part of its system-wide responsibility, is mandated to admit those who reside in the Los Angeles basin and meet entrance requirements. Both traditional (entering straight from high school) and non-traditional students matriculate with diverse academic preparation, cultural traditions, ethnic backgrounds, and expectations about university life and their ability to achieve desired goals. The Freshman Seminar (University 100) was designed to assist all students in making a successful transition to the university by exposing them to a wide variety of campus resources, learning situations, and assignments that prepare them for future challenges in and outside the classroom. The course is normally taught over a 15-week semester but has also been delivered using summer and cohort models.

Cal State Northridge has been particularly concerned with retaining more first-year students. Since course completion has been shown to have a positive influence on retention (Huber, 2006), general education credit is awarded for successful completion of the Freshman Seminar. Enrollment in Freshman Seminar is limited to a maximum of 25 students per section, and instructors work from a common customized reader with a set of core learning outcomes, which include improved written and oral communication, information literacy, working in pairs and groups, and familiarity with and application of general education competencies.

This article summarizes an integrative “capstone” assignment for a Freshman Seminar offered in the Department of Recreation and Tourism. The assignment was recognized as a “best practice” by a panel of judges composed of Freshman Seminar course instructors. Students attempted to answer the question, “Why Aren’t They Using Griffith Park?” One of the largest urban parks in the United States, Griffith Park was founded in 1896 by Colonel Griffith J. Griffith. The 3,000-acre park was intended to relieve the pressure of urban living for the average citizen (Schoch & Khalil, 2007). Today, the park includes a zoo; an observatory; a museum that commemorates the American West; a theater; a picnic area; and many trails for hiking, mountain biking, and equestrian activities. Yet, many area residents seem unaware of the park’s resources.

The assignment was a field-based research project requiring students to collect data using an instructor-designed, 14-item survey to be administered face-to-face as an oral interview. Students also were to analyze findings using Microsoft Excel and present results in writing and orally. The course instructor gave 15 paper copies of the survey to each student and sent back-up copies by e-mail.

In order to accomplish the assignment, students had to be organized, manage time and resources effectively, and apply knowledge and skills gained throughout the semester. For example, they used investigational strategies from library instruction when learning about the location and history of Griffith Park and when discovering the role and significance of collecting non-participant data as part of a research design. Efforts were also made to highlight the relevance of this kind of an assignment. Students also practiced outlining, highlighting, and other strategies for summarizing new material that was presented in the course text and in reports given by their classmates.

Throughout the term, the instructor checked progress through in-class discussion, quick-writes (i.e. brief, spontaneous writing assignments) and through student-selected pairs, which allowed students to gain a peer “reality check” on their understanding of and approach to the assignment. Midway through the course, students were given exercises designed to teach the skills of writing a research paper, including how to write an abstract, a conclusion, and recommendations. They then brought to class written outlines of their research projects and conducted peer critiques. Students were then allowed several more weeks to collect and review data on their own.

Two weeks before the final version of the paper was due, a technology...
assistant who supervised one of several campus computer labs, provided students with a brief presentation on how to use MS Excel spreadsheets to transform narrative data into quantifiable input and how to present results of descriptive analyses in charts or graphs.

Finally, Freshman Seminar students were required to bring their completed projects to class, including appended verifiable surveys, and to highlight two specific aspects of the assignment: (a) what they learned about the research process (experiential learning) and (b) how this assignment incorporated CSUN’s basic general education competencies (i.e., application of basic math/statistics, written communication, oral expression, critical thinking, and information competence).

Based on feedback from the students, the assignment achieved the following outcomes:

1. It disallowed students to “go through the motions” of the research process. While the majority of students remembered the scientific method from high school, they had not been transferring that knowledge to the reading of scholarly articles, essays, or research studies. As one student concluded, “Oh so now I get it. It’s like a science project!”

2. It helped students understand how and when to access and use resource persons, including librarians, computer lab technicians, and workers from the writing lab, who visited the class as part of the common Freshman Seminar curriculum.

3. It reinforced that new skill sets introduced in courses are to be used. Students had to develop and use new skills to complete the assignment while building on previous skills. While most students admitted that they did not always understand the reading material and assignments, by presenting readings and summarizing learning experiences in class they took ownership of the material and viewed peers as legitimate sources of relevant information and insight.

In conclusion, the Griffith Park term project helped take Freshman Seminar students to a different level of learning and responsibility — very different from what had been expected of them in high school. As adult learners, students had to interpret and personalize responses to assignments as opposed to following a blueprint that would result in uniform responses. They were able to meet high expectations and succeed with complex assignments because the desired outcomes were clearly defined and students were carefully prepared to succeed.

First-year students also learned that course instructors are only one of many resources that facilitate student learning and that they can apply academic concepts in the world around them. This assignment laid the foundation for future community-based assignments/projects, including observations, community service-learning, and internships. Students kept a portfolio of their assignments in three-ring binders, a technique that allowed them to monitor their progress.

By the final exam, most students stated that they felt better prepared for the next three or more years and that they gained an appreciation for what it truly meant to be a contributing member of a community of learners. Having a system of support, a bag of tools, and an understanding of when and how to use each is important in maintaining a sense of connection to the institution, major, intended profession, and civic engagement.

Postscript: In May 2007, a fire ravaged Griffith Park, consuming 800 acres, displacing wildlife and disrupting affordable, accessible outdoor recreation, health, cultural, and educational opportunities for millions. It is anticipated that it will take many years to complete a proposed $50 million recovery plan. Local citizens throughout Los Angeles will be asked whether the park should be restored to former uses or modified to meet evolving needs of the greater Los Angeles region. Thanks to this assignment, a few more citizens may know something about Griffith Park before attending a town meeting, public hearing, or going to the polls to decide its future.

References


See GRIFFITH PARK, p. 15
and informative programming in future semesters. The office also hosts programs such as “Think Tank Breakfasts” each semester, bringing together students, faculty, and staff to discuss those topics that are important to them and that would benefit the larger college community. In this way, the office can gauge the college culture as a whole and determine how everyone may be served better.

References

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