



A Community of Colleges... A World of Opportunity

Retention Roundtable

Governing Board Monitoring Goals
December 2, 2003



Chandler-Gilbert Community College
Estrella Mountain Community College
GateWay Community College
Glendale Community College
Mesa Community College
Paradise Valley Community College
Phoenix College
Rio Salado College
Scottsdale Community College
South Mountain Community College

Agenda

Retention Roundtable Discussion

Overview and Background

Overview and background information is provided for Board members to review.

Best Practices Highlights

Two best practices will be highlighted for Board members and a student from each program will provide a brief overview of their experiences.

- 1) GWCC, PROSPER: A Student Support Services Program

Jared Aragona, Director of TRIO Programs

- 2) SMCC, ESL Program

Jerry Cervantez, ESL Faculty

Tony Bracamonte, Senior Associate Dean, Enrollment Services

Best Practices Overview

A brief overview of best practices from every college is provided for Board members to review.

Chandler/Gilbert Community College	<i>Math Anxiety Reduction (MARS)</i>
Estrella Mountain Community College	<i>NASA Math & Science</i>
GateWay Community College	<i>PROSPER, TRIO Program</i>
Glendale Community College	<i>Supplemental Instruction</i>
Mesa Community College	<i>Online Student Services</i>
Paradise Valley Community College	<i>First Year Experience (FYE)</i>
Phoenix College	<i>Hoop of Learning Program</i>
Rio Salado College	<i>Electronic Student File System</i>
Scottsdale Community College	<i>Biology 181</i>
South Mountain Community College	<i>ESL Program</i>

Questions/Answers

Board members will have an opportunity to ask questions regarding retention efforts and best practices.

Retention Overview and Background

Overview

Nationally, research has shown that community college students leave college due to combination of academic and personal reasons including achieving personal and professional goals, external conflicts, or being academically under-prepared for college. Programs and services in both academic affairs and student development have been developed to increase retention of community college students.

A comprehensive list of programs and services is provided in the appendix section for the annual Report on Governing Board's Goals and Measures 2002-2003. Additionally, each college has provided detailed information on a successful program that can be considered a best practice in student retention. It is important to note that best practice programs may not always translate successfully to other colleges. Two of the best practices programs will be highlighted during the retention roundtable discussion.

Background

MCCD has engaged in a variety of retention activities over the past two years. For example, retention activities have included:

- March 2002: Board amended goal to read: *Students will be provided programs and services that further increase retention and support their learning, educational, and employment/career goals.*
- August 2002: Strategic Conversation: *"What Promotes Successful Learning and What Prevents It? A Look at Student Retention."* The conversation highlighted one college's approach to student retention.
- November 2002: Distribution of Monitoring Report included programs and services information related to new retention goal.
- March 2003: Retention Roundtable was held to provide information and develop a common definition of retention for MCCD.
- Fall 2003: District baseline data on student retention has been developed and has been included in the annual Governing Board report.
- Next Steps: A districtwide Retention Summit is being planned for Spring 2004 including a national speaker and setting district goals and vision for retention. Additionally a district retention committee will be developed to guide future retention initiatives.

Chandler/Gilbert Community College
Retention Best Practice
Math Anxiety Reduction/Retention Student Success (MARS) Project

Outcome Being Measured

Counseling and math faculty at CGCC have collaborated on a project to improve successful completion rates in MAT 091 Introductory Algebra, and to address students' anxiety which was thought to be a barrier to progress in higher-level math and science courses. The MARS initiative was launched in fall 2001 and subsequently expanded to include a Career Exploration Research Project (CERP) designed to assist students in clarifying their career goals and evaluating how math anxiety may be limiting their career choices.

Level at Which Measurement Occurs

Measurement occurs at the course level. MAT 091 (Introductory Algebra with Anxiety Reduction) is offered for four credits at CGCC.

Description of Retention Methodology

Dr. Rene Barrios, along with several residential and adjunct counselors at CGCC, developed four lesson plans to closely follow and satisfy the MAT 091 math anxiety reduction competencies. At the beginning of each semester Dr. Barrios meets with the MAT 091 instructors and reviews the process and responsibilities of the counselors and instructors. After each semester, he meets with those counselors who presented lessons in the MAT 091 classes to review what went well and what needs improvement.

Dr. Wayne Gautreau led the organization and development of the Student Math Anxiety/Attitude Study Habits (SMASH) activities, a Math Biography Questionnaire, and the Learning Styles Survey. The SMASH and Learning Styles surveys are utilized to assess each student's level of math anxiety, their attitude toward success in math, their study habits, test preparation skills, test taking habits and their dominant and subdominant learning styles. This information is used by the counseling faculty to open class discussions and to help each student employ affective techniques for overcoming math anxiety, and to develop appropriate study skills and test preparation strategies based on their individual learning style. The Math Biography questionnaire is used to help students understand they were not born with math anxiety and to help them determine how, where and when they began developing math anxiety.

A third CGCC division also became involved with this project when a Wellness faculty member developed a handout on nutrition. Proper nutrition and exercise are now included in the presentations as ways to help reduce anxiety that leads to poor test taking.

Improvements Being Integrated

Continuous process improvement has been and will be a mainstay of this program. After the first semester of implementation, it was determined that students needed more guidance related to career decision making. A significant number of MAT 091 students were found to have set relatively low academic and career goals. In addition, it was discovered through a survey of sixty MAT 091 students that 88% were influenced by the level of math required when selecting their degree or career path. To address this issue and the MAT 091 competency related to careers, each student is now required to complete the Career Exploration Research Project (CERP). This research project requires students to take a web-based personality assessment survey as well as two computerized career assessment tests (an interest and an abilities test). Upon completion, students are required to make an appointment with a counselor to discuss the results.

During the summer of 2002, after two semesters of implementation, the majority of activities used in the original Math Anxiety Reduction Guide were replaced with new activities, handouts, overheads, statements, and exercises. It was also decided to develop a resource for conducting the relaxation and breathing techniques so that instructors could implement the MARS completely on their own. This decision resulted in the counseling division developing the first part of a three-part video on relaxation techniques, positive self-talk, and nutrition and exercise.

Results/Status

To measure student learning and understanding, and to continuously improve the presentations and overall program, assessment surveys are given to the students at the end of each of the four presentations and at the completion of the program. Results of these surveys have shown that the material is being clearly presented and understood. Another section of the survey asks students to rate the importance or value of the information presented. Students rated the importance of learning about the physiological and cognitive effects of math anxiety, positive self-talk, muscle relaxation technique, deep breathing technique, goal setting, career decision making, self-responsibility, test preparation, test anxiety, test taking strategies, exercise and nutrition, learning styles, and study skills. The following statistics reflect the compiled responses of all students, in all classes, after each presentation during the fall 2003 semester.

53%	Very Important
38%	Somewhat Important
4%	Not important at all
5%	Not sure

The following statistics show the responses from a separate survey completed by MAT 091 students in four-day classes to evaluate their perceptions of the value of the CERP assignment. The results are from the fall 2002 semester and show a comparison of day students who are undecided and decided about their career goals:

A = Combined Agree/Somewhat Agree

B = Combined Disagree/Somewhat Disagree

Undecided students

	A	B
CERP helped identified/clarified my goals	89%	11%
CERP enhanced my education motivation/commitment	94%	6%
CERP identified programs of study related to my career goals	100%	0%
CERP is worthwhile/valuable for students	89%	11%
I would recommend CERP to others	95%	5%

Decided students

	A	B
CERP reinforced/supported my goals	93%	7%
CERP enhanced my education motivation/commitment	82%	18%
CERP identified programs of study related to my career goals	87%	13%
CERP is worthwhile/valuable for students	86%	14%
I would recommend CERP to others	88%	12%

After two years of program implementation, Chandler-Gilbert Community College has one of the highest student retention and success rates not only at the MAT 091 level but for all mathematic courses. An overwhelming number, 98% of the MAT 091 students on the Student Program Assessment survey indicated that the MARS program was extremely useful and the primary reason for their success. They also indicated that not only did the skills they learned from the presentations help them in math but also were transferable to other course work.

Preliminary studies of grade distribution reports suggest that successful completion rates (grades of A, B, and C) in MAT 091 are higher than comparable courses without anxiety reduction components. Since the project was initiated so recently, longitudinal data are not available. Additional research on successful completion and failure/withdrawal rates is planned as more grade data are collected.

Contact Information

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Wayne Gautreau, CGCC Math faculty (480-732-7307)

Estrella Mountain Community College
Retention Best Practice
NASA Center for Success in Math & Science

The NASA Center for Success in Math & Science serves as the college's core driver for student success in mathematics and sciences. The Center is the cornerstone of math and science initiatives that are supported by Estrella Mountain. In addition, the Center serves as a vital link for under-represented students as they successfully prepare for technical careers. The Center provides students with a continuing community of support to insure their retention and persistence from middle school to college. The Center is founded on the best practices which include the following three strategic components:

- Pre-college outreach, which targets middle and high schools. The goal is to assist students to persist in the k-12 pipeline and promote college going behavior.
- College success, which increases retention and persistence of students in the community college through bridge programs, faculty mentoring, and academic support.
- Transfer and workforce, which assists students to transfer from the community college to four-year institutions and/or the workforce through university visitations, internships, and professional development activities.

Outcome Being Measured/ Level at Which Measurement Occurs

Outcomes being measured include program participation and retention, successful course completion of math & science courses, transfer to four-year institutions, degree completion, and enrollment in Science, Technology, Engineering, and Math (STEM) disciplines. The measurement is part of the college-wide Student Success Core Indicators. In addition to the college-wide core indicators of effectiveness, the college is working with the faculty to insure that the Center initiatives are part of the colleges' student academic assessment program.

Description of Retention Methodology

The retention methodology that is being implemented is multifaceted and is founded on the results of the Symposium hosted by EMCC on *Best Practices for Student Achievement in Science, Mathematics, Engineering and Technology in 2-year Hispanic Serving Institutions*. These best practices can be found on the NASA Center for Success in Math & Science web site at the following address: http://saturn.emc.maricopa.edu/academics/nasacenter/images/NSF_Inside.pdf

Results/Status

Examples of initial outcomes and improvements being integrated into curriculum, teaching and learning, and/or services are:

- Bridge programs for high school junior and seniors, and for entering freshmen students. Students take mathematics, science, computing science and a counseling personal development course.
- NASA summer academy for middle school students. Students are from the NASA partner schools (11 middle and 7 high schools) in the West Valley.
- Faculty development of study/material aids for biology courses and development of workbooks for graphing calculators.
- Training seminar for faculty on MAPLE software and incorporating physics into mathematics.
- Development of a student tracking database to track participant's activities and completion of programs. Database is also being adapted to support other college initiatives that have defined program cohorts i.e., Genesis West and Inspire.Teach.

Contact Information

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GateWay Community College
Retention Best Practice
PROSPER: A Student Support Services Program

PROSPER stands for Providing Resources and Opportunities to Students Pursuing Academic Rewards. The Program is funded by a Student Support Services TRIO grant from the U.S. Department of Education.

Outcome Being Measured

The outcomes being measured are persistence (60% of program participants must persist toward the academic programs in which they are enrolled), good academic standing (60% of program participants must maintain a GPA of 2.0 or better), graduation (50% of participants in the final semester of their degree programs must graduate), and transfer (25% of students in the final semester of their degree programs must transfer to a four-year college or university).

Level at Which Measurement Occurs

The measurement occurs within the PROSPER program. PROSPER is limited to 160 low income, first generation and/or disabled program participants. These 160 may come from any of GateWay's divisions.

Description of Retention Methodology

Our retention methodology consists of supporting students in 5 areas:

1. Academics: PROSPER assists students academically through unlimited professional and peer tutoring services, college success seminars and workshops, equipment loan programs (laptop computers, calculators, etc.), textbook loan programs, individualized academic planning, academic progress reports, and campus visits to potential transfer institutions.
2. Financial Aid: PROSPER helps students apply for financial aid, search for scholarships, and apply for scholarships. PROSPER also offers scholarships to students who meet certain basic and merit criteria.
3. Career Exploration: PROSPER helps students stay focused on their ultimate career goals through career counseling. PROSPER also works closely with GateWay's career center to provide students with access to career exploration opportunities. PROSPER also posts employment and internship opportunities in our center.
4. Cultural Experience: PROSPER provides students with access to a variety of cultural experiences ranging from artistic performances to museum exhibits to field trips.
5. Family on Campus: Participants in the PROSPER program know that the staff and their fellow participants are watching their progress. PROSPER provides a forum to celebrate successes and analyze obstacles to success; it also creates a peer group that is invested in the success of all participants.

Improvements Being Integrated into Curriculum

PROSPER continuously strives to improve program services. GateWay recently provided the PROSPER program with a success center on campus, complete with its own classroom to conduct program services, and this will greatly improve the services we provide. Each semester we add to the services that are related to student success; for instance, this semester we added basic computer assistance and an enhanced series of career exploration services.

Results/Status

PROSPER has been highly successful in its two years of operation. For the 2002-2003 academic year, 84.4% of participants persisted toward the completion of the programs in which they are enrolled, 87.5% of participants remained in good academic standing, 75% of participants in the final semester of their degree programs graduated, and 33% of participants in the final semester of their degree programs transferred to a four-year college or university.

Contact Information

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Glendale Community College
Retention Best Practice
Supplemental Instruction

Outcome Being Measured

We are measuring the final grades of students registered in Microeconomic Principles who participate in Supplemental Instruction to those students taking the class who do not participate.

Level at Which Measurement Occurs

At Glendale Community College, we have offered Supplemental Instruction with Economics 112, Microeconomic Principles for the past four years. The measurement of retention occurs at the class level.

Description of Retention Methodology

Supplemental Instruction (SI) was introduced on the Glendale Community College campus in 1999. It is used to target historically difficult academic courses. SI is an academic support program offered by the Center for Learning. SI provides regularly scheduled, out-of-class, student facilitated review sessions. These sessions integrate course content and learning strategies. All students enrolled in the class are eligible to attend the review sessions on a voluntary, anonymous basis. The student facilitator attends the class, and has been trained as a facilitator for the SI sessions.

SI addresses the lack of student preparation for courses taught at a college level of instruction. By focusing on the historically difficult courses, attrition can be effectively addressed for all enrolled students rather than only those who display symptoms of failure. This generalized approach helps students learn how to clarify what they read and hear, and to analyze information and predict test items. These skills are applicable in succeeding classes and can be used with any course content.

Improvements Being Integrated into Learning and Services

SI gives students a different avenue of opportunity to learn and expand on subject content. Having the SI leader attend class and model “good student techniques” sets an example for the other students because they see what it takes to excel in the class. SI gives students who might be afraid to approach the instructor an opportunity to approach a peer who would be less intimidating to a student. We will continue to offer SI to instructors who are interest in using it in their courses. Every semester we survey the class to look for ways we can improve SI.

Results/Status

During the Spring 2000 term, Kat Huth provided Supplemental Instruction (SI) for the students enrolled in Economics 112. Although we hit a snag at the beginning of the semester when the SI leader left, we were able to make an impact with students when the new SI leader arrived. Throughout the term, 24 SI sessions were offered to students. In all, five students from the class of 34 (14%) used the service. Total contact hours for the SI group totaled 18 hours.

The mean final course grade for SI participants was 2.2 compared to 1.57 for non-SI participants. The rate of D and F final course grades and withdrawals was 40% for the SI participants and 55.5% for non-SI participants.

This semester, SI is being used in conjunction with Economics 111 and Political Science 120. Attendance at SI sessions has increased over the past several semesters since we are able to report to students that there is evidence that students experience greater success in class when they participate in SI.

Contact Information

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Mesa Community College
Retention Best Practice
Online Student Services

Outcome Being Measured

Students accessing and utilizing the Online Student Services component are more successful in a) Completing the college's enrollment process, and b) Completing distance and online academic courses.

- **New Student Online Orientation:** An online PowerPoint presentation provides a step-by-step overview and orientation to the web-sites and resources students will need to become successful online services users. Direct access and links to all student services and academic support services are available to the distance learner at the touch of a "click." Users develop online navigational skills.
- **Enrollment Services:** Students receive an online Individual Educational Plan tailored to their academic and career goals. Online degree checksheets provide students the ability to chart their graduation completion timeline.
- **Financial Aid Services:** All new online students are contacted about initiating the student financial aid process. Eligible students can complete the entire process online and typically receive funding sooner than students who do not utilize online services.
- **Chat Room:** Interactive online communication enables users to have real-time discussions with an advisor.
- **Distance Learning Orientation:** Provides information on distance and online courses, including accessing support services.
- **Internet Class Schedule:** Students can check course offerings for each semester and obtain instructor information.
- **Online Student Tracking:** Students can be tracked and monitored regarding the enrollment process and online follow-up provides timely support services. Successful retention services are a result of the tracking ability of this process.
- **Online Evaluation of Services:** Students can evaluate and provide comments regarding the Online Student Services programs. Continuous updating and improvement to services is a result of this process.

Level at Which Measurement Occurs

The level of measurement occurs college-wide for all users of the online service. The ability to track and monitor student success via online processes provides timely assessment of services and the ability for follow-up and action.

Description of Retention Methodology

The Online Student Services program integrates the ability of the college to provide access to services and programs in a timely and responsive manner. Online users have an expectation that services and goods should be immediately accessible. This program provides that ability via the listings of web-sites and resources. In addition, the tracking and monitoring aspect of the program provides the service provider the ability to be proactive in the delivery of services.

Improvements Being Integrated Into Curriculum

Although this program is a retention strategy implemented through Student Services division, the Online Student Services and Instructional Distance Learning programs collaborate on this project. The academic advisors ensure that online users and distance learners have access to a comprehensive and diverse set of services and academic courses.

The online evaluation component provides students the opportunity to assess the services and courses and to make suggestions that encourage continuous improvement of the program.

Results/Status

There are measurable patterns of student success that can be attributed to this and similar support programs.

- Distance learners and online service users have more rapid access to timely and accurate information, and support.
- Distance learners and online service users can be tracked and monitored regarding their ability to succeed via an online program. Support services provide a broad level of resources to increase a student's ability to succeed.
- Students who may find distance and online courses to be more challenging than rewarding are contacted by online academic advisors and are provided advice and feedback on other choices to pursue their educational goals.
- Students who utilize online financial aid services and are eligible to receive funding will typically receive funding in a more timely manner.
- The ability to track and monitor distance learners and online users provides the program with evaluative opportunities for improvement.

Contact Information

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Paradise Valley Community College
Retention Best Practice
First Year Experience Program (FYE)

The First Year Experience Program (FYE) integrates academic and co-curricular learning into a block to help new students transition successfully to the college environment. Cohort groups of first-time, full-time students had higher retention rates after the first semester than similar students enrolled in traditionally structured courses. FYE goals are focused on the areas of student retention/persistence, academic preparedness and courses, personal development, and transition to college life.

Outcome Being Measured

The FYE program has the following outcomes:

1. Focus on Arizona General Education Curriculum (AGEC) coursework.
At the end of the second year, students enrolling in two semesters of FYE will have made substantial progress toward completion of AGEC coursework including ENG 101/102, two Social/Behavioral (SB) courses, one Humanities and Fine Arts (HU) course, one Computer Information Systems (CIS) course, and completion of math courses.
2. Increase student retention to the second semester and second year of college.
2000-2001
 - In Fall 2000, 94% of FYE students completed the block
 - In Fall 2000, 90% of FYE students enrolled in second semester courses
 - 85% of Fall 2000 FYE students enrolled in college courses in Fall 2001**2001-2002**
 - In Fall 2001, 92% of FYE students completed the block
 - In Fall 2001, 89% of FYE students enrolled in second semester courses
 - 77% of Fall 2001 FYE students enrolled in college courses in Fall 2002**2002-2003**
 - In Fall 2002, 95% of FYE students completed the block
 - In Fall 2002, 97% of FYE students enrolled in second semester courses (91% were enrolled in Maricopa Colleges in Spring 2003)
3. Build relationships and community, and engage in campus life.
At the end of one semester in FYE, **82%** of students reported a feeling of belonging at PVCC compared with **77%** at the beginning of the semester. In addition, students spend out-of-class time with each other and with faculty in activities related to their coursework.
4. Identify connections between college coursework and future plans and goals.

In fall 2001, **90%** of FYE students reported that courses "made me think about real life in new ways" compared to **65%** in the control group.

Description of Retention Methodology

The First Year Experience Program (FYE) integrates academic and co-curricular learning to help new students transition successfully to college life. Students enroll in a FYE block of 2-4 courses as a cohort and remain with the cohort throughout the first year. FYE provides students with a holistic education to help them understand how college intertwines with real life. The classroom content is integrated with campus life, student services such as advising, tutoring, etc., and service learning opportunities outside the classroom. Course content is linked or integrated so that students see the relationship between academic disciplines and college activities.

Improvements Being Integrated

- Discipline-specific study group sessions in Sociology 101 and English 101 were successfully offered in the fall 2002 semester. (74% of the students attended the first Sociology 101 study session.) *"The Friday study groups helped me the most. Studying for tests was very well organized."*
- An Information Literacy Librarian was added to the "Exploring Your Options in a Changing World" block in the fall 2002 semester. This information literacy component increased student knowledge/skills in critical thinking, research, documentation, and source-based writing competencies. As one FYE student indicated, *"I think locating resources in the library and on the databases was really helpful. It helped reduce searching time when we needed to find resources."*
- Six "Computer Lab Sessions" were scheduled throughout the fall semester on six Friday mornings (9:00-10:30 a.m.) to support computer needs and provide extra time to complete projects.
- The direct involvement of the CPD150 instructor in teaching study skills and note taking skills proved beneficial to student learning and retention of the material.
in the FYE program.
- A FYE Faculty Resource Guide was created in the spring 2003 to provide FYE information, resource material, and guidance to new FYE faculty who are planning a FYE fall 2003 block. This Faculty Resource Guide has been distributed to all of the instructors and the Associate Dean of Instruction.

Results/Status

PVCC has incorporated over 20 years of national research data into its program, while designing program elements specifically to meet the needs of PVCC students. Data on retention show that the FYE Program is successful, and this program continues to be offered.

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Phoenix College
Retention Best Practice
Hoop of Learning Program

HOOP OF LEARNING PROGRAM

The Hoop of Learning Program is a 2+2+2 program designed to bring Native American students from the Phoenix Union High School District onto the Phoenix College campus as students and to support their program completion, i.e.: graduation. The primary objective in the program is to counteract the "long history of alienation and social isolation" of Native American students. The program provides a culturally responsive educational environment rich in the critical elements of familiarity and comfort. The Hoop of Learning Program was established at PC in 1995 to assist Native American students enroll and succeed. The plan is to make the campus "user friendly" for the students. It is a collaborative effort between the local K-12 school districts and postsecondary institutions. The program removes barriers that hinder retention, graduation, and transfer. Easy access to the Native American faculty and staff, an openness to make all things accessible and possible to the students, and role modeling are priorities. The Native American student population in the Phoenix area has one of the highest high school dropout rates of any Native American students in the U.S. Some 65% drop out before the ninth grade. With high school dropouts included in the dropout figures, the overall dropout rate is typically 85%.

Project Objectives

- 90% of participants at middle school level will successfully complete four PUHSD credit hours for the successful completion of two years in the program and graduate to high school.
- 90% of the high school seniors will successfully complete six credit hours at PC for each year they are in the program (a possible total of 24-26 credit hours by the time they graduate from high school).
- 90% of participants will attend PC or MCCD colleges and graduate.
- 90% of partnership students who successfully complete the coursework will be maintained.

The Hoop of Learning Program at Phoenix College has exceeded these expectations annually.

The program assumes that middle school is the age of maturity. From this point on, individuals must begin to prepare to make a living and contribute to the support of their extended family. The program is based on the belief that young Native American people must develop strong positive ethnic identities and realize that education is critical to the survival of Native American people. Students start taking classes in middle school and continue through high school.

New students to the program must attend a one credit orientation to the college, with Native American faculty, prior to being enrolled in their summer studies.

Students are enrolled in a five-week summer program. They are enrolled in two courses, or 6-7 credits, and participate in a wide variety of other learning events and experiences designed to build self-confidence. Students are placed in college coursework they have tested into by taking placement tests.

Approximately 60 students are enrolled in the program each year. The program is conceptualized as a total system of support for students (seamless web), which includes parents, extended family, the school systems, the college, the community partners, city government, the state university and the Phoenix Indian Health Center and Indian Center. The program provides a culture-rich learning environment designed by Native American people, within the public high school systems. The central focus is to nurture the Native American worldview, with spiritual understanding as the basis for development, learning and growth. Native American culture is a protection from negative influences and self-destructive actions. Cultural education is important to students whose parents may not have traditional life styles themselves, having been cut off from their cultures and languages as the result of being sent to BIA boarding schools, leaving home to find work, and other distractions.

Parents, faculty and staff set high expectations for students and provide continuous encouragement. The Hoop of Learning staff at the college provide personal support, academic counseling and personal support to include housing assistance, job placement, transportation and other assistance through referrals. The college staff act as mentors, brokers and advocates and network with other staff and partners to find the resources students need.

Phoenix College provides a full-time coordinator/counselor, faculty members, tutoring for students, college credit for summer classes, testing to determine placement in English, mathematics and reading, career and financial counseling, campus tours and orientation, the Native American Student Association student club (mentors and Talking Circles), tuition waivers, books, classroom space, instructional technology.

Mentors from the college student population help individual students with coursework and role modeling as this is the Native American preferred learning modality. As much as possible, Native American faculty members work with the Hoop students. The college assists with child care, early childhood education, baby supplies and emergency food boxes. Additional assistance is provided by Indian Community Health Center, City of Phoenix, High School District, UNITY Native Youth Group Mentors, Phoenix Indian Center, Senior Community Service, and Private Enterprise provides funds for outside activities and books and other associated costs.

Students must sign contracts committing them to meet the program requirements before they are enrolled in the program. The students and their families attend an evening orientation. They must be enrolled in school, in good standing and

be registered with the Native American Education program. All new students, accompanied by an adult family member, must attend an orientation workshop, during this workshop they take the ASSET placement test to determine the appropriate level they should be placed in for coursework.

The importance of partnerships is established by the differences in dropout rates of students in the Phoenix Union High School District, the primary partner of PC. The current dropout rate for Native American students in PUHSD who have participated in the Hoop program is 9.79% compared to 24.59% for students who did not participate in the program, and graduate rates of 61.54% compared to 35.71% for non participants. Clearly the program is making a tremendous difference in student persistence and completion.

Key Elements

- Key staff contacts have an open-door policy
- A strong student organization at both the school district and college campus
- Talking Circles
- Emergency loan funds (books, food, bus)
- Honoring ceremonies
- Early college credits while still in high school
- College orientation and classes for middle school students
- Scholarships to cover tuition, fees and books for PC courses

Program Design

Perceived need by Native American students for remedial help in school is positively related to their persistence. Those students who use school support services are more likely to persist in school. If a student feels confident of their ability to succeed in school, the chance for successful completion greatly enhances partnerships that provide peer support, mentoring activities, and Native agency participation contributes to persistence. Special partnerships and organizations that provide special intervention strategies designed to promote persistence have the greatest effect on retention in school.

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Rio Salado College Retention Best Practice Electronic Student File System

The Electronic Student File System (ESF) is a web-based, password-protected, advising tool that Rio Salado College developed and released in 1999. As of August 2003, Rio Salado College has been utilizing the 2nd iteration of ESF (ESFII) managing approximately 10,000 advisement files. The system was created to help transition Rio Salado College to a paperless advisement office to better assist the distance learning student population. ESF is used by advisors to create student files, which contain the following information:

- Contact information
- Advisement information (including transfer plan and educational goal)
- Contact notes
- Program requirements (Nursing, DH etc.)
- Degree or certificate check sheets
- Direct email link between advisor and student
- Retention reports

While ESF assists advisors and students with educational planning, it also assists Rio Salado College with program retention efforts. The system is set up to allow for multiple access levels, and accounts can be set up for students, advisors, faculty members, and administrators. The benefits of the Electronic Student File System (ESF) include:

Student Benefits

- Access anytime, anyplace to academic advisement file
- Connected to college through assigned academic advisor
- Online access to current class schedule
- Online access to educational plan (degree or certificate check sheet)
- Student empowerment
 - Links to CAS, Transfer Guides, etc.

Advisor Benefits

- Quick and easy access to their cohort of students
- Access to all student files
- Detailed notes on student interactions
- Reports to assist advisors in managing case load

College Benefits

- Statistics/information regarding students pursuing degrees/programs
- Increased advisor capacity for managing greater number of student files
- Assistance with programmatic retention efforts
- Ability to track students completing an educational goal at Rio Salado

Outcome Being Measured

The Electronic Student File system will assist the college in measuring the completion of a student's educational goal while at the college. An educational goal consists of one of the following:

- Degree
- Certificate
- Program
- Block or series of courses

Level at Which Measurement Occurs

ESFII is designed to track student goals, which are above the course level. In the initial implementation of ESF, students with an educational goal at Rio Salado (as defined above) who sought out academic advisement were entered and tracked in the system. In ESFII, all students calling to register for a course, interested in completing an educational goal with Rio Salado, will be entered into the system. In addition, students entering a number of Rio Salado programs such as Teacher Education and Clinical Dental Assisting will be entered into the system in the initial class.

Description of Retention Methodology

A number of retention reports have been created in order to assist in the retention of students completing an educational goal with Rio Salado. Academic advisors will have access to the following reports:

- *At Risk-Student Report*- lists students entered into ESFII completing a degree, certificate, program or block of courses who earn a "D", "F", or "I" in a course.
- *In-Activity Report*- lists students entered into ESFII completing a degree, certificate, program or block of courses who have a "non-enrolled" status for a defined period of time (e.g., two semesters).
- *Enrolled/Non-enrolled Report*- lists students who were advised and the percentage enrolled/non-enrolled.
- *Completion Report*- lists the percentage of Rio Salado student's advised who complete their educational goal with Rio Salado. This report also indicates average completion time.

Communication Center- reports are attached to a communication center. The communication center will allow advisors to communicate with students via mail labels/mail merge or email.

Improvements Being Integrated into Curriculum, Teaching and Learning, and/or Services

Student enrollment services personnel will begin to spend a greater amount of time with new and returning students in order to capture information into ESFII and aid in the retention of students completing an educational goal with Rio Salado.

Results/Status

The retention tracking features were added to the second iteration of ESF. We implemented ESFII in August 2003. In February of 2004, advisors will begin to use the retention reporting features of the system.

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Scottsdale Community College
Retention Best Practice
Biology 181

Outcome Being Measured

The biology faculty at Scottsdale Community College have conducted a study of student characteristics, performance, and retention in Biology 181, General Biology (for biology majors). Biology 181 was selected for the study because it is the key course that biology and health-profession majors use to prepare for their eventual enrollment in upper division biology courses at the university. Failure to master the concepts presented in Biology 181 jeopardizes the student's performance in the upper division classes, which determine the student's opportunity to attend graduate or medical school.

Level at Which Measurement Occurs

The study is conducted on the course level and measures a variety of factors influencing success in the class, including the student's previous college-level science and mathematics training, job-related work hours, success in reading the textbook, laboratory attendance, and high school attended. The study also measures the withdrawal rate and the distribution of grades.

Description of Retention Methodology.

On the first day of class in every semester from Fall 2000 through Spring 2003, students were asked to fill out a questionnaire. They provided information about their high school training, including school attended, year of graduation and grade in various science and mathematics courses. They were also asked what college-level (not including remedial courses) mathematics and science classes they have completed with a grade of "C" or better. Since this course is primarily a university transfer course, students also give information on which university they plan to attend to complete their bachelor's degree, and what their long-term (15 year) goals are. To evaluate the impact that outside employment, a very common feature of the modern college and university student, has on college success, students also indicated the number of hours worked at an outside job per week.

At the end of the semester, student performance was evaluated as follows. Students who dropped the course were noted and retained in the analysis, but no other success measures were applied to them. Among those who successfully completed the course, exams and over-all grade in the class were used as measures of success.

Improvements Being Integrated

The instructors for the course 1) revised the curriculum to help develop chemistry and math skills for students who had not completed college-level courses in those key areas, 2) revised the course to produce more incentives for students to

read the text, and 3) added more examples in pharmacology and increased the emphasis on certain aspects of molecular biology.

Results/Status

Of 256 students entering BIO 181 in the six semesters studied, 107 (41.8%) dropped or withdrew from the course. A pattern emerged that suggested spring semester students were slightly more likely to drop than fall semester students. Distribution of overall grades for all semester combined was relatively high. The average final grade for all 4 semesters combined was 80.88%. This value was inflated slightly because students earning a grade of C, D or F often drop the course. Average final grades were remarkably uniform over semesters, as measured by tests of statistical analysis.

Intuitively one would expect previous schooling to correlate with success in BIO 181. To test that intuition the faculty analyzed the following variables as potential predictors of success: previous college training in mathematics, chemistry, physics and biology. Although information on high school science and mathematics training were also obtained by the survey instrument, as yet no clear pattern exists between courses taken in high school and this course. Despite this lack of a trend, the school district that a student attends may have a tremendous impact on success in college.

This course, like most college and university science courses, contains three central elements – the lecture/discussion sessions; the textbook; and the laboratory. Most students seem to focus on the first and view the latter two as superfluous. To test this somewhat dubious implicit hypothesis, the faculty attempted to measure how important these elements are to overall success. This measurement involved more than just stating that $x\%$ of the course grade comes from lab or reading quizzes. The alternative hypothesis to the students was that understanding the text and laboratory exercises gives the student a more solid foundation in lecture, and therefore make the student's *lecture* scores increase. Such an effect is very hard, if not impossible, to measure, but some information can be gleaned by comparing reading quiz scores to the largely independent measure of exam scores, and also comparing student grade to laboratory attendance.

In addition to these academic considerations, the modern student must deal with many nonacademic issues while at school. Most notably, a combination of our society's devaluation of education and the expense of higher education push more and more students into outside employment.

Previous College Mathematics

The majority of students have taken at least one previous mathematics course before entering BIO 181, although rarely have they gotten beyond college algebra. Of 256 students, 149 (58.2%) had college level mathematics. Although there was considerable variation among semesters, there is no strong indication that the semester medians are heterogeneous.

Students who entered BIO 181 with no college math were significantly more likely to drop the course than those who had taken math previously. Of students without college mathematics, 67% dropped, whereas only 45.8% of students with mathematics dropped, a significant difference (Chi-square = 11.6 on 1 degree of freedom, $p = 0.0006469$). However, among those who finished the course previous mathematical training had no obvious effect on final grade.

Previous College Chemistry

A depressingly small proportion of students entering BIO 181 have taken a suggested preparatory course in chemistry, even though chemistry has been known to predict success in this course. Only 1/3 of students entering BIO 181 have taken a previous college level course (91/256 or 35.55%), although most claim to have had high school chemistry (data not shown). Although the proportion of students taking biology after chemistry appeared to be homogeneous by semester, the data suggested the number may be increasing over time.

Following the pattern with mathematics, students without a previous college chemistry course were more likely to drop BIO 181 than students coming in with chemistry completed. About 44% of students without chemistry dropped, whereas only 23% with chemistry did. Once again, among students who complete BIO 181, previous chemistry experience did not appear to correlate strongly with final grade.

Obviously, the results above indicate that college mathematics and chemistry are important preparatory courses for BIO 181. It therefore makes sense that a student without either is at significant risk. To test this conjecture the faculty analyzed how well students performed based on their training in both mathematics and chemistry combined. A very clear pattern emerged. Students without mathematics or chemistry carried the greatest burden of risk: almost 60% of them dropped. Students with both college courses enjoyed a substantial benefit, with a risk of dropping well below 1/3.

One could argue that these results do not imply that mathematics and chemistry are really all that important. College experience could explain these patterns just as easily; that is, students who have already had chemistry or mathematics have been in college longer, have more study skills and have already been through a “filter” of college courses. Certainly some data support that argument. Students who have had previous college courses do tend to be older.

Despite these results, age and college experience apparently does not account for all of the effect. There was apparently no difference between the age of students who drop vs. those that do not (Mann-Whitney test: $U = 8389$, $p = 0.2021$). Therefore, it appears that skills acquired in mathematics and chemistry courses accounted for most of the variation in drop rates among the diverse student backgrounds.

Previous Physics and Biology

No significant effects of previous biology or physics training was uncovered in this analysis. Very few students have taken a previous physics course (21 of 256, 8.2%), but among those that did, 7 (33.33%) dropped, whereas 100 of 235 (42.55%) students without previous physics dropped. For students with previous biology, 29 of 77 (37.7%) dropped, while 78 of 179 (43.58%) without biology did.

High School Attended

One important factor determining how well a student learns in BIO 181 may be the quality of their high school education. There is a deep intuitive sense that some high schools or school districts that are better than others at preparing students, as evidenced by all the interest in standardized testing. In an effort to uncover any patterns associated with a student's high school experience, the faculty kept track of which schools students graduated from. Since there are so many schools involved, however, an analysis of individual institutions is not possible. However, enough data exist to begin looking at school districts.

Slightly less than 73% of our students from Arizona come from the Scottsdale, Paradise Valley and Mesa school districts. Among students from these districts, around 40% from Scottsdale and Mesa dropped, whereas slightly less than 30% from Paradise Valley did so. Of those students who completed the course, the average grade for students from Scottsdale, Mesa and Paradise Valley were comparable.

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South Mountain Community College
Retention Best Practice
ESL Program

SMCC's ESL program encourages students to enroll in program blocks, which include ESL, English and reading classes. The college offers approximately 40 ESL sections each semester, enrolling 350 students. Block programs are available both day and evening, and are staffed by both full and part-time faculty.

Students enrolling in the program are a diverse group. They vary in age, from as young as 17 years of age to 70 plus years of age. ESL students also vary in educational background, from the student that has minimum knowledge to those that have a college education. They come from all over Maricopa County to attend classes at SMCC.

The program goals are specific, and are clear to both participating faculty and students. Students are expected to pass course competencies with an 80% or better score. Retention is a major goal of the program, focusing on course completion. Students are encouraged to continue through the four levels of the program and into other college programs.

For initial course placement into ESL, students take the CELSA exam. LAS, Stel and a writing sample are done within the first week of class. This assists the instructors in verifying placement and in recommending any adjustments of the student's course work. The student is then re-advised and if the student agrees, their schedule is adjusted. The ESL program also participates in the college-wide institutional assessment model. During the fifth week of classes, students are asked what is helping them, what is not and what additional assistance they need. This information is used to assist faculty in program improvement. Students also have individual midterm assessments with their instructors, many of whom hold individual conferences. This is to give the students specific feedback on how they are doing in class.

Program faculty work with student services and instructional support personnel and other college faculty on specific activities intended to improve student retention. This begins with coordination between the program coordinator and student enrollment services, to assure personal follow up with students interested in the program, and in correct course placement. In addition, student services specialists come in to the classroom to register continuing students for their next semester. Enrollment services staff, primarily student services specialists, also work with faculty to provide an in-class student orientation, focusing on an overview of the services available to assist students while they are at SMCC.

Specific activities are also designed to increase student retention through increasing student involvement in the college. For example, the ESL program

coordinator is also the faculty advisor for the ESL club. Students are encouraged to participate in club activities to join in a common cause, and to build relationships among the students. Club members participate in fundraising activities and take a field trip at the end of the year with the funds they raise.

Coordination between ESL faculty and SMCC communication faculty provides students in communication classes with a service learning opportunity working with ESL students. Students also have the support of the Learning Assistance Center for both group and individual tutoring, and senior volunteers work in the ESL classrooms as well as through the Learning Assistance Center.

Further motivational activities are provided for ESL students through a motivational seminar, where past students share their success stories. A recognition “banquet” at the end of each semester provides ribbons for students completing each level of the program, and a certificate of completion for those who have completed all levels and are eligible to move on to regular college courses. At this time, students are also given program brochures and encouraged not only to register for the next semester, but also to recruit friends and family to participate in the program.

ESL faculty teamwork is also encouraged as full and part-time faculty meet each semester to review course content, materials and assessment results. The extra efforts of the faculty and support of student services and instructional support program staff across the college have resulted in continuing improvement in retention of ESL students.

Retention for SMCC, 45th Day to End of Term

All Students

Fall Semester	Head Count 45 th	Head Count ET	% Retained
'00	3514	2966	84.4
'01	3406	2928	86.0
'02	3933	3469	88.2

ESL Students

Fall Semester	Head Count 45 th	Head Count ET	% Retained
'00	259	201	77.6
'01	279	231	82.8
'02	236	210	89.0

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