Chapter 7

The Outreach Mission
CHAPTER 7: THE OUTREACH MISSION

Criterion 3: The institution is accomplishing its educational and other purposes.

Introduction

Outreach is a fundamental component of the University of Arizona’s tripartite mission. It extends the other two components – teaching and research/creative activity – to audiences beyond the campus.

As Arizona’s land-grant university, the UA makes extraordinary efforts to share knowledge generated through research and scholarly activity with people outside the University, and to improve the quality of life for citizens of the state and the world beyond. It offers hundreds of programs designed to reach beyond the campus and ultimately to make the world a better place. In the broadest sense, the University’s external constituents are “students” who benefit from its commitment to become a preeminent student-centered research university.

This chapter defines the University’s outreach mission and gives numerous examples of outreach activities, which are organized into three broad categories: educational programs, research and creative activity, and community-service programs. In addition, the focused outreach efforts of four UA units are presented in some detail because of the particularly significant role of outreach in their missions. Discussions of outreach assessment and challenging issues for the future conclude the chapter.

Outreach Mission and Definition

The University of Arizona Strategic Plan: Transformation Beyond the Year 2000 – 1999 Update presents the University’s mission statement, with its clear commitment to “improve the quality of life for the people of Arizona and the nation” (25). Thus the responsibilities of serving the state and contributing to community and economic development are at the heart of the University’s purpose.

A commitment to outreach activities is reiterated in the mission statements of the major academic and administrative units of the University, the Arizona Health Sciences Center, and the University’s branch campus. Outreach is the primary function of units such as the Cooperative Extension program in the College of Agriculture, Extended University, “UA presents” (the University of Arizona’s performing arts series), and KUAT (which operates radio, television, teleconference, and other broadcast media). In the other academic units and at UA South, outreach is generally a component of the educational and research missions or is related to development and fundraising. The University library and museum systems have the dual missions of supporting University activities and making their resources available to the community. Both the College of Agriculture and the College of Medicine have outreach programs that are funded independently, by federal and state budgets, in keeping with the University’s land-grant status.

Outreach Definition

Before the 1995 revision of the University’s strategic plan, the term service usually referred to activities that today are labeled outreach. In 1995, the report Redefining Service: Report of the Team on Service Structure was released by the UA campus committee assembled to review the service mission. The report suggested that service be defined as a combination of outreach, support, and citizenship. Outreach was described as “integrated teaching and research/creative efforts directed toward external audiences.” An important contribution of this document was the recognition that outreach is an extension of both teaching and research/creative activity, though the audiences and approaches may differ. The concept of outreach was further
expanded and clarified in the February 1998 report of the University Strategic Planning and Budget Advisory Committee (SPBAC) Subcommittee on the Outreach Mission of the University (26).

Following the guidance of the SPBAC Subcommittee on the Outreach Mission, the 1998 University strategic plan update defined outreach in a manner that identifies the nature of the activities included, the sources from which these activities arise, and the goals for which they are intended. This definition is provided below:

*Central to the University of Arizona's unique land-grant responsibility, outreach is a form of education that transcends the classroom and laboratory to bring knowledge to people outside of the University. Outreach is a manifestation of the University's teaching, scientific and scholarly research, creative activities, and community service. It involves the generation, delivery, application and preservation of knowledge for the well-being of our external constituents.*

**Outreach as an Extension of Teaching, Research, and Service**

Outreach is the process of extending the intellectual expertise and resources of the University through teaching, research/creative activity, and service to populations not ordinarily reached by typical campus-based University programs. Outreach is an endeavor of all the University's academic colleges as well as other University programs and units. Table 7.1 illustrates the scope of outreach activities throughout the University in three categories: 1) educational programs; 2) research and creative activity; and, 3) community-service programs. The categories are characterized below. At the end of this chapter, several examples of activities in each of these categories are presented to demonstrate the impressive breadth and diversity of the University's outreach programs.

**Educational Programs**

- **UA Students Off-Campus:** Activities through which UA students engage in applied learning through off-campus community service.

- **Continuing-Education Students:** Activities in which non-UA students can engage in continuing education sponsored by the University.

- **K-12 Students:** Activities both on and off campus specifically oriented to K-12 students.

- **Professional Training:** Programs designed for working professionals in the community to stay current with advances in their fields and to retrain for other fields.

**Research and Creative Activity**

- **Community, State, and National Applications:** Faculty research and creative activities that address the needs of local, state, national, and international communities.

**Community Service Programs**

- **Community and Economic Development:** Activities that help Arizona benefit from regional and global economic developments and contribute to the fiscal well-being of communities.

- **Societal Problem Solving:** Activities in which the University extends its expertise to solve specific societal problems.

- **Cultural and Intellectual Enrichment:** Activities that extend University resources for the cultural and intellectual enrichment of local, state, national, and international communities.
The University has a particular responsibility to extend its educational, research, and service activities to the people of Arizona because of its status as a land-grant university. The University of Arizona, founded in 1885, and the nation’s other land-grant schools owe their existence to the Morrill Act of 1862. That legislation gave certain states federal land to be sold, with the proceeds used to establish institutions of higher education. The land-grant institutions were charged with teaching agriculture and “the mechanic arts,” without excluding other disciplines, and to “promote the...education of the industrial classes...”.

During the past decade, the University’s obligation “to improve the quality of life for the people of Arizona and the Nation” has been most apparent in the College of Agriculture – which operates Cooperative Extension and the Agricultural Experiment Station – and by the Arizona Health Sciences Center. The original land-grant ideal, however, has been embraced by all academic programs and units of the institution.

Table 7.1. Outreach as an Extension of Teaching, Research, and Service - 1999
Programs that extend UA resources to people outside the University

<table>
<thead>
<tr>
<th>Academic Colleges</th>
<th>Education</th>
<th>Research &amp; Creative Activity</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UA Students Off Campus</td>
<td>Continuing Education Students</td>
<td>K-12 Students</td>
</tr>
<tr>
<td>Agriculture</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Architecture</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Arizona Int'l College</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business &amp; Public Administration</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Education</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Engineering &amp; Mines</td>
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<td>Fine Arts</td>
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<td>Humanities</td>
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<td>Law</td>
<td>x</td>
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</tr>
<tr>
<td>Medicine</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UA South (Sierra Vista)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other UA Programs/Units</th>
<th>Education</th>
<th>Research &amp; Creative Activity</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division of Campus Life</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Extended University</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Intercollegiate Athletics</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>KUAT (PBS) and Video Services</td>
<td>x</td>
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<td>x</td>
</tr>
<tr>
<td>Libraries</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Museums</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Office of Undergraduate Education</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>UA presents</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>UA Press</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

1 Examples of outreach activities in the categories of education, research and creative activity, and service are presented at the end of this chapter.
The University of Arizona houses more than 500 outreach programs, services, courses, and events. A recent (1999) publication produced by Extended University, *The University of Arizona Outreach Inventory*, documents the outreach programs now in place (19). These programs are found in each of the University’s academic colleges and divisions; in its student-life activities; in its museums, libraries, and performance halls; in its public-broadcasting programs; and in its sports events. A biannual magazine, *Outreach UA*, first published in 1994 and now produced under the auspices of the vice president for university advancement, informs the public of the many ways in which the University reaches the community at large (20). Outreach programs University-wide have been enhanced through information technology and electronic communication, and many are now widely accessible via the Internet.

**Focused Outreach Efforts**

The rest of this chapter will discuss the focused outreach efforts of four University areas. Outreach is particularly significant in the first three units described. In the fourth area, community and economic development, the outreach activities of several academic units contribute collectively to the University's leadership role.

- College of Agriculture: Cooperative Extension and Agricultural Experiment Station
- The University of Arizona Health Sciences Center (AHSC)
- Extended University
- Community and Economic Development

**College of Agriculture: Cooperative Extension and Agricultural Experiment Station**

**Cooperative Extension:** As the outreach arm of the College of Agriculture, Cooperative Extension fulfills its goal of “taking the University to the people” through a broad array of educational programs. The Cooperative Extension program began at the University of Arizona in 1914 (as a result of the Smith-Lever Act) to extend the land-grant teaching function and research efforts beyond the University to the communities of the state. Today, Cooperative Extension is a statewide network of more than 250 faculty and staff located on campus, in Arizona’s 15 counties, and on Indian reservations. These knowledgeable faculty and staff provide lifelong learning programs for all Arizonans. They work with community volunteers to help people improve their lives by making informed decisions.

Funding for Cooperative Extension programs comes from federal, state, and county governments. During the past few years, grants, gifts, and contracts have supplied an additional $5 million. A recent issue of the College of Agriculture’s annual publication, *Arizona Land and People*, describes the College’s 21 partnerships with other University departments and colleges, other universities and schools, community organizations, businesses and commodity groups, government agencies, and international institutions and organizations (3).

Cooperative Extension builds its programs through “grassroots” efforts. The needs of Arizonans, as expressed by local advisors and county boards of supervisors, are matched with the College of Agriculture’s faculty, staff, and research expertise. Extension faculty, located in every county in the state, respond to local community needs and problems. More than 11,000 certified extension community volunteers, as well as people from other government agencies, are offered training to help extend the work of the college.

Extension activities include training for more than 60,000 4-H youth (58% minority) and 4-H adult leaders; training in horticulture and related sciences for Master Gardeners, who share their expertise with others in their communities; helping parents become more effective; and teaching people to work with low-income homeowners.
Cooperative Extension provides educational programs in the following four areas:

- **Agriculture and natural resources programs** include dairy, cotton, vegetables, field crops, turf, farm safety, small farms, aquaculture, water quality, urban horticulture, commercial horticulture, water management, fruit and nut crops, sustainable agriculture, environmental education, pesticide impact assessment, pesticide applicator training, natural resource management, range livestock production, and integrated pest management. As an example, the study *Hualapai Mountains Land Exchange: effects on Ranching and Provision of Public Services in Mohave County* gathered information on ranch costs and returns, land lease arrangements, and residential-ranching interface problems. The proposed land exchange would affect the spatial pattern of land owner ship and influence the nature of future development of Mohave County.

- **4-H youth development programs** are open to all youth ages 5-19 in both rural and urban environments. Programs include raising guide dogs for the blind; raising rabbits, sheep, and goats; and after-school mentoring. In addition, 4-H youth development programs help young people broaden their horizons while expanding their concepts of themselves. The 4-H program adapts to meet the changing needs of youth in their own environments. For example, the Life Skills Alternative Sentencing Program, in cooperation with the Pinal County Juvenile Court System, is designed to assist nonviolent first-offenders.

- **Family and consumer resources programs** include life-skills education, parenting education, food safety, health and nutrition, family and community leadership, consumer affairs and resource management, healthy adolescent relationships, and building strong families. For example, the Extension Food and Nutrition Education Program imparts knowledge, skills, attitudes, and behavior changes necessary for sound nutrition for low-income families. This program has been remarkably effective in improving the food choices of participating families.

- **Community development programs** include agricultural tourism, community economic development, leadership development, and public-policy education. For example, the *Agricultural Development Resource Manual and Marketing Strategy for Southeastern Arizona* aggregates agricultural production and resource data for four counties and describes more than 100 agricultural production and value-added opportunities that have strong potential for the region.

Cooperative Extension’s programs have expanded in breadth and complexity well beyond the traditional focus on crop production, 4-H, and home economics. The basic sciences in agriculture now include genetics, microbiology, biochemistry, pathology, and biotechnology. Extension is involved in conserving environmental resources while striving for increased yields on less land. The application of science-based information is instrumental in helping Cooperative Extension faculty and staff solve problems at the local, state, national, and international levels. In this manner, Cooperative Extension fulfills one of its primary missions—to make science useful (3).

**Agricultural Experiment Station:** The Arizona Agricultural Experiment Station (AAES) is the research arm of the College of Agriculture. As part of the nationwide Agricultural Experiment Station System established by the Hatch Act in 1887, the AAES supports a network of research activities and applications on campus and throughout the state. The Experiment Station is not a physical structure or an experimental farm, but rather an administrative entity responsible
for the U.S. Department of Agriculture (USDA) federal-formula funds and state general appropriations received each year. Thus, the AAES has evolved to become the home of all research activity associated with the College of Agriculture.

The AAES network currently involves more than 700 employees in departments, schools, and research centers of the College of Agriculture. Its research activities and applications take place across the state in laboratories, on cropland, and in communities. The College of Agriculture manages agricultural centers at 11 locations in Arizona to take advantage of different geographic and climate conditions. The AAES budget of nearly $48 million includes federal and state appropriations, grants, and contracts. Research activities are conducted under the auspices of more than 225 "Hatch Projects" and "Regional Research" projects that are developed, peer reviewed, approved locally, and authorized by the USDA. These projects represent topics ranging from fundamental research on the structure and function of genes, to integrative research that develops fundamental discoveries into targeted practices and technologies, to adaptive research that applies the findings to actual production, processing, marketing and environmental systems (3).

The University of Arizona Health Sciences Center

Statewide service has been a primary mission of the University of Arizona Health Sciences Center (AHSC) since its founding more than 30 years ago. Arizona’s only academic health center, AHSC includes the UA colleges of Medicine, Nursing, and Pharmacy; the School of Health Professions; University Medical Center, a nonprofit 365-bed teaching hospital; and 11 centers of excellence, each dedicated to preventing disease and improving lives across Arizona’s diverse population.

AHSC reaches out to communities throughout the state in a variety of ways. A few examples include:

- **The Arizona Telemedicine Program**: This award-winning program is bringing a broad range of UA medical subspecialty expertise to many rural communities previously served almost exclusively by primary-care physicians (see Figure 7.1). Telemedicine makes it possible to deliver specialized medical services to distant sites using modern telecommunication technology, including high-resolution video imaging, digital photography, computer work stations, and other technologies. As of October 31, 1999, more than 4,000 telemedicine sessions provided service for more than 1,000 patients. AHSC also offers the Physician’s Resource Service, a toll-free line for Arizona physicians seeking expertise and services available at AHSC.

- **The Arizona Prevention Center**: As AHSC’s newest center of excellence, the Arizona Prevention Center (APC) is developing innovative disease-prevention and health-promotion efforts throughout the state in partnership with Arizona’s communities. APC provides educational support to health professionals. The center is working to enhance community health programs through a partnership with the UA College of Agriculture (and its Cooperative Extension Service) and the Arizona Department of Health Services. APC’s principal educational program is the Arizona Graduate Program in Health, a collaboration with Arizona State University and Northern Arizona University designed to meet the particular needs of the Southwest.

![Figure 7.1. Arizona Telemedicine Program](image-url)
• The UA Rural Health Office: The Rural Health Office (RHO) provides vital assistance throughout the state to medically underserved areas that are fighting to improve or maintain current levels of health-care services. A component of the UA Department of Family and Community Medicine, the RHO focuses on education, service, and research. From assessing an area’s health-care needs to providing primary care in several southern Arizona communities, the office has a long history of aiding the medically underserved.

• AHSC Rural Health Professions Program: Through participation in this program, medical, pharmacy, and nurse-practitioner students receive part of their education at rural sites statewide. This innovative program seeks to encourage more health professionals to live and work in the state’s underserved areas.

• AHSC Phoenix Campus: In 1994, the AHSC Phoenix Campus was established to meet the needs of UA medical students in Maricopa County and to provide education and community outreach to the surrounding region. The Phoenix Campus now is “home” to about one-third of UA’s third- and fourth-year medical students. Many complete their education in Phoenix through various area teaching hospitals. More than 400 Phoenix physicians are associate UA College of Medicine faculty members committed to teaching and training medical students. AHSC Phoenix Campus faculty and students communicate with the Tucson campus through teleconferencing.

• Arizona Poison and Drug Information Center: Each day, poison specialists at the Arizona Poison and Drug Information Center serve as expert resources for parents, paramedics, physicians, police, firefighters, scientists, and researchers. Administered by the UA College of Pharmacy and staffed by full-time pharmacists, the center is accessible by toll-free telephone 24 hours a day, 365 days a year. The center is among the busiest AAPCC (American Association of Poison Control Centers) certified regional poison control centers in the nation. It receives more than 70,000 phone calls a year on questions ranging from medication interactions to household-product poisonings to bites and stings.

• The Arizona Health Sciences Library: Serving as Arizona’s most extensive source of health-sciences information, the AHS Library has long supported widespread use of electronic tools to improve health-sciences education, practice, and research throughout the state. Open 365 days a year, 24 hours a day, the AHS Library provides support to Arizona’s health professionals and the public through information services, collections, computer networks and other outreach services.

• Nuestra Comunidad, Nuestra Salud (Our Community, Our Health): This cooperative educational and community service outreach project is funded by a grant from the Health Resources and Services Administration. It is a joint venture involving students from the colleges of Nursing, Pharmacy, and Medicine; the graduate program in public health; and Arizona State University’s School of Social Work. The program is designed to increase access to health services in Santa Cruz County, Arizona, located on the U.S.-Mexico border. Students work on interdisciplinary teams with community professionals, attend weekly seminars, and complete the course “Issues in Rural Health Care.”
Extended University

Extended University (EU) promotes lifelong learning by extending the resources of the University through convenient educational programs. Established in 1912, the UA Extension Department – later known as the Continuing Education division – offered 56 lectures in 21 towns. Formal correspondence study was made available in 1916. After eight decades of growth, adaptation of programs to meet the needs of Arizona citizens, organizational changes, and periodic review of its mission, Extended University has evolved into one of the primary cross-disciplinary outreach units of the University of Arizona. Two recent reports, *Program Authorization Review Self-Assessment and Academic Program Review Self-Study*, provide a comprehensive view of Extended University’s role in supporting the outreach mission of the University. (Copies of both reports are in the Resource Room.)

One of the key characteristics of extended education programs is their ability to provide timely and responsive programming to meet community needs. Moreover, only 12% of Extended University’s budget comes from state dollars, making it a largely self-supported unit. These two factors – responsiveness and self-support – make evaluation an important part of EU’s programming. Consequently, all EU classes, credit and noncredit, have assessment components.

**Credit Courses:** All courses offered for credit by Extended University apply to degree or program requirements, and all are approved by University academic departments. Courses meet on or off the campus at times convenient to students. The Evening and Weekend Campus program, for example, allows working adults to earn a bachelor’s degree or pursue advanced graduate study through courses offered after 5:00 p.m. weekdays or on Saturdays. The academic departments, as partners, have the responsibility to select course instructors from among regular faculty members who are comfortable teaching nontraditional students often in nontraditional formats. Each course ends with a survey to assess course content and instructor effectiveness. The survey is consistent with those used in most campus courses. Survey results are compiled by the campus office of Instructional Assessment and Evaluation Services and reported to the department and to Extended University.

**Noncredit Courses:** Noncredit courses offered by EU are based primarily on community needs. Other factors influencing the assortment of courses offered are market research, course evaluations, requests by potential customers, and contracts. Extended University designs courses around topics that are timely, perennially popular, or otherwise likely to attract enough people to make a course financially feasible. For example, new non-credit courses often address current issues, new scholarly findings, or popular self-improvement skills. EU directors and program developers are responsible for course development and marketing. The decision to repeat an offering is based on enrollment, student evaluations, availability of instructors, and continued interest or need.

**Categories of Extended University Programs:** There are two basic categories of outreach activities offered by Extended University: academic programs and distance learning (credit and noncredit courses), and personal and professional development programs (noncredit courses). Data on enrollments in these programs from 1993-94 through fall 1998 are included in Tables 7.2, 7.3, and 7.4. In 1998-99, for example, enrollments in all Extended University programs exceeded 40,000.
In addition to serving a large number of citizens, an effect of these programs has been to put people in touch with the University on their own terms, beginning at an early age and extending into old age. Examples of the types of outreach programs offered by Extended University are presented below.

**Academic Programs and Distance Learning**

- **Off-Campus Course Delivery** – UA courses and degree programs, usually offered for cohort groups under the sponsorship of their employers. Examples: the American Indian Language Development Institute, the major in criminal justice, the master of science degree in business administration, the Border Academy, and the baccalaureate degree program in agricultural technology management (delivered in Yuma by the College of Agriculture in partnership with Arizona Western College and Northern Arizona University).

<table>
<thead>
<tr>
<th>Table 7.2</th>
<th>The University of Arizona Extended University Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enrollments Credit Programs</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PROGRAMS</strong></td>
<td>93-94</td>
</tr>
<tr>
<td>Evening &amp; Weekend Campus</td>
<td>-</td>
</tr>
<tr>
<td>Credit Extension</td>
<td>-</td>
</tr>
<tr>
<td>Cohort MBA</td>
<td>-</td>
</tr>
<tr>
<td>Cohort MS Syst. Eng.</td>
<td>-</td>
</tr>
<tr>
<td>Cohort Crim. Justice</td>
<td>-</td>
</tr>
<tr>
<td>Other (off campus)</td>
<td>872</td>
</tr>
<tr>
<td>Summer Session</td>
<td>12,331</td>
</tr>
<tr>
<td>Winter Session</td>
<td>280</td>
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<tr>
<td>Correspondence</td>
<td>2,000</td>
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<tr>
<td><strong>Video</strong></td>
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<tr>
<td>Library Science</td>
<td>495</td>
</tr>
<tr>
<td>All other</td>
<td>425</td>
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<tr>
<td><strong>Internet</strong></td>
<td></td>
</tr>
<tr>
<td>Library Science</td>
<td>-</td>
</tr>
<tr>
<td>All other</td>
<td>-</td>
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<td><strong>TOTALS</strong></td>
<td>16,403</td>
</tr>
</tbody>
</table>

1 Fall/Spring/Summer or Fall/Spring
2 Nonduplicated headcount
3 Individual course registrations
4 Moved to Internet in 96-97
5 Mostly engineering and related fields
6 Credit/noncredit students
7 Includes 129 enrolled as noncredit students

<table>
<thead>
<tr>
<th>Table 7.3</th>
<th>The University of Arizona Extended University Program Enrollments Elementary and Secondary School Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROGRAMS</strong></td>
<td>93-94</td>
</tr>
<tr>
<td>Correspondence</td>
<td></td>
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<tr>
<td>High School</td>
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<tr>
<td>Middle School</td>
<td>90</td>
</tr>
<tr>
<td>Elementary</td>
<td>9</td>
</tr>
<tr>
<td>Bilingual</td>
<td>32</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>2,136</td>
</tr>
</tbody>
</table>

1 Independent study for school credit (grades 9-12) also is included in the table of noncredit enrollment

- **Evening & Weekend Campus** – Credit programs for adults who cannot attend daytime classes. Examples: UA Bachelor of Arts degree with a major in general business, interdisciplinary studies, creative writing, or political science; the graduate gerontology certificate program; and advanced studies in art therapy.

- **Summer Session** – Credit courses offered on campus during a three-week summer presession term, two five-week terms, and workshops of varying length.
## Table 7.4
The University of Arizona Extended University Program Enrollments
Noncredit Programs

<table>
<thead>
<tr>
<th>PROGRAMS</th>
<th>93-94</th>
<th>94-95</th>
<th>95-96</th>
<th>96-97</th>
<th>97-98</th>
<th>98-99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Humanities</td>
<td>1,382</td>
<td>1,758</td>
<td>2,266</td>
<td>1,613</td>
<td>1,734</td>
<td>1,535</td>
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<tr>
<td>Business Programs</td>
<td>93</td>
<td>153</td>
<td>142</td>
<td>275</td>
<td>640</td>
<td>190</td>
</tr>
<tr>
<td>Business – Video</td>
<td>345</td>
<td>660</td>
<td>291</td>
<td>214</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Computer Education</td>
<td>1,278</td>
<td>2,731</td>
<td>3,270</td>
<td>2,796</td>
<td>2,709</td>
<td>2,870</td>
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<tr>
<td>Conference Services</td>
<td>3,243</td>
<td>2,260</td>
<td>2,776</td>
<td>173</td>
<td>1,070</td>
<td>920</td>
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<tr>
<td>Correspondence Adult</td>
<td>51</td>
<td>43</td>
<td>102</td>
<td>138</td>
<td>36</td>
<td>15</td>
</tr>
<tr>
<td>Correspondence Grades 4-12</td>
<td>2,136</td>
<td>2,444</td>
<td>2,159</td>
<td>2,061</td>
<td>1,945</td>
<td>2,030</td>
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### Distance Learning

- **Independent Study through Correspondence** – University, high school, middle school, elementary school, ESL, and bilingual courses offered for credit or enrichment to students anywhere, at any time.

- **Video-Based Learning** – UA courses and graduate degree programs delivered by video technology to meet specific needs in such fields as engineering, business, agriculture, and the joint Master of Public Health degree (with ASU and NAU).

- **Computer-Based Learning** – Web-based programs and courses, such as the Master of Engineering degree program, graduate courses offered by the UA School of Information Resources and Library Science, and undergraduate courses in the inter disciplinary field of consciousness studies.

### Personal & Professional Development Programs

- **Arts & Humanities** – Topics range from art history to holistic healing.

- **Business and Workforce Development** – Customized training and certificate programs on topics such as team building, professional office management, and financial accounting.

- **Computer Education** – Classes for computer users at all levels; examples include networking, databases, and book-keeping.
• Conference Services – Extended University assists faculty with program planning, marketing, and registration.

• Language & Learning Theory – Classes in Spanish and other languages.

• Professional Development – Courses created for career advancement, self-improvement, and for continuing education credit.

• Writing Works Center – Classes and certificate programs in creative writing, technical writing, and grant writing.

• Children’s Programs – Summer Education and Enrichment for Kids (SEEK) courses and summer camps; weekend adventures for children and parents; year-round classes for preschool through middle-school students.

• TraveLearn – Group study/travel tours that include faculty escorts and on-site lectures.

• Senior Programs – Elderhostel programs for people age 55 and over; Seniors’ Achievement and Growth through Education (SAGE) seminars and discussion groups organized by this learning-in-retirement society; and a workshop series “The Second Fifty Years.”

Community and Economic Development

The University has taken a leadership role in the area of community and economic development. As southern Arizona’s leading employer in 1997 and 1998, the University of Arizona contributed significantly to the health of the regional economy.

The University has been instrumental in attracting corporations relocating to the Southwest and has stimulated important business enterprises in the state. Tucson is known by many as “Optics Valley” because of its world-class complex of nearby big telescopes, its strong astronomy and optical sciences academic and research programs at the University, and the nearly 100 optics-related companies now located in the area. The University’s Optical Sciences Center, Steward Observatory, Mirror Laboratory, Lunar and Planetary Laboratory, and Astronomy Department make important contributions to the area’s economic development through basic and applied research programs, government and private funding for instrument and product development (telescope mirrors, space cameras, lasers, and thin film, for example), and their training of future leaders for research and technical positions.

The University of Arizona Science and Technology Park (STP), located approximately 15 miles southeast of the main campus, was established to foster research, educational, and economic development activities. (Additional features of the STP are described in chapters 4 and 6 of this report.) The STP serves as a supportive environment for leading-edge research and development, a high-technology-business incubator, and a skill-training center, particularly in aerospace, optics, computer and information technology, bioindustry, and environmental technology. The STP currently has strategic partnerships with other Arizona organizations, such as the Technology Education Center, the Greater Tucson Economic Council, and the Arizona Department of Commerce.

Many UA departments and colleges contribute resources and faculty expertise to the support of community development projects, the solution of industry problems, and the economic growth of the region and state. The Agricultural Development Resource Manual referred to earlier in this chapter is one example. Other examples include the following:

• The College of Engineering and Mines supports three National Science Foundation (NSF) centers: the Center for Microcontamination Control, the Center for Low Power Electronics, and the Engineering Research Center for Environmentally Benign Semiconductor Manufacturing. These centers share the goal of contributing to the success of their industrial partners through knowledge and technology transfer. The college also hosts three annual meetings of its Industrial Advisory Council. Some 30
companies statewide, represented by CEOs, presidents, and vice presidents, attend these meetings to ensure coordination among educational programs, state needs, and legislative activities.

- The College of Architecture’s Community Planning and Design Workshop sponsors 10 ongoing projects within Tucson neighborhoods and rural and Native American communities. One of the more important projects is “Hope 6,” a $16,000,000 Housing and Urban Development (HUD) project to revamp Tucson public-housing projects.

- The Water Resources Research Center in the College of Agriculture published a major report, *Water in the Tucson Area: Seeking Sustainability* (1999), that addresses the complex issues of water availability, demand, quality, conservation, and treatment. A water-resources research database at the University is now available online as a resource for researchers, decision makers, journalists, and members of the public as they deal with the social, cultural, and economic aspects of water in the Tucson area.

- The College of Pharmacy Center for Health Outcomes and Pharmaceutical Economic Research assesses health-care interventions from a clinical, economic, and humanistic perspective. The center collaborates with researchers, academic institutions, health-care organizations, and pharmaceutical firms worldwide. Research areas include cost-effectiveness analysis, quality-of-life assessment, pharmaceutical policy analysis, and drug-use evaluation.

- The Eller College of Business and Public Administration’s Economic and Business Research program (EBR) has provided valuable economic information since 1949 to help Arizonans make economic decisions. EBR’s economic forecasting project serves the state’s legislative budget committee, other government entities, businesses, and utilities. The project disseminates its forecasts in numerous ways, among them a quarterly publication, *Arizona’s Economy*, that is available via the Internet. The college’s annual Economic Outlook Luncheon provides local businesses with a scientific forecast of the Tucson and Arizona economies and a discussion of national and international economic trends.

- UA South Office of Language Programs and Distance Learning Initiatives has been awarded $1.9 million in contracts over the past few years to develop and implement training in language acquisition and retention for Department of Defense personnel via distance learning.

The University’s location near the international boundary with Mexico has promoted the development of programs concerned with the special social, economic, legal, and political circumstances of the border zone. For example, the Udall Center for Studies in Public Policy operates an active research and outreach program on environmental issues concerning the U.S.-Mexico border region. The College of Social and Behavioral Sciences conducts the Border Academy, cosponsored by the Mexican American Studies and Research Center and the Southwest Center. This two-week summer conference examines social, political, and economic issues affecting the U.S.-Mexico border region.

The University of Arizona’s Office of Economic Development recently released two major reports sponsored by the Arizona-Mexico Commission as part of the Arizona-Sonora Project. The first report, *Evaluation of Arizona Competitiveness*, compares the competitiveness of Arizona and its border communities to those in California and Texas. This study serves as a reference for government officials, economic developers, and community and business leaders working to attract new businesses and investments to Arizona. The second report, *Indicators of Progress*, presents four sets of economic indicators designed to measure and evaluate progress in developing the Arizona-Sonora region. These two reports add weight to Arizona’s efforts to build a regional economy with its sister state of Sonora and to increase its share of trade and economic development under the North American Free Trade Agreement (NAFTA). (Copies of both reports are in the Resource Room.)
Assessment

One goal in the University’s current strategic plan is “to strengthen University outreach to address needs of the community, state, and nation.” Three outreach objectives that relate to this goal are defined in the strategic plan (25).

1. To address major social, cultural, economic, and public policy needs through outreach opportunities.

2. To coordinate and integrate overlapping outreach activities that address needs of the community, state, and nation.

3. To enhance outreach capabilities by incorporating new and emerging technologies.

Each objective has a series of well-defined strategies. Two sets of measures have been developed and data collected to provide evidence on how well performance matches expectations and standards.

The University has made better progress toward achieving objectives 1 and 3 than number 2. The outreach activities of the University’s departments, colleges, and divisions are rich in diversity and purpose and are designed to address major social, cultural, economic, and public-policy needs. The annual report and Academic Program Review of each unit provide documentation and assessment of outreach activities. Slow but steady progress in expanding the use of new and emerging technologies also has led to an increase in the number and variety of distance-education and Internet offerings.

Because outreach planning and assessment occur primarily in the departments, colleges, and divisions, however, the broader institutional perspective and benefit of these activities are limited. The fragmented approach results in less effective institutional planning, reporting, and assessment; lost opportunities for collaboration and communication among similar programs; and losses in political revenue. Greater efforts are being made to coordinate and integrate some of the major outreach activities that appear to be overlapping (Objective 2) so that University-wide human and financial resources more effectively address the needs of the external constituency.

One such effort has produced the first University-wide documentation of outreach programs, *The University of Arizona Outreach Inventory* (19). This project was led by the dean of Extended University, who was assisted by the Extended University Dean’s Advisory Council (composed of one representative from each academic unit). Updating this inventory on a regular basis, systematically reporting and analyzing outreach activities, and establishing central coordination for communication and marketing purposes will improve the planning, assessment, delivery, and publicity of outreach activities.

New opportunities to bring institutional outreach into the spotlight arose with the recent (1998) appointment of a vice president for university advancement. The vice president’s responsibilities include promoting the University throughout the state and beyond, as well as working with University friends and benefactors, journalists and other media representatives, businesses, and legislators.

The University’s strategic plan includes outreach measures only of constituent awareness and participation. Such measures are less than adequate to assess progress toward the stated goal. Excellent assessment processes are in place for many individual outreach programs. Nevertheless, a weak outreach assessment process without well-defined outcomes exists at the University level.
As a remedy, a careful needs assessment of the external constituents who have already been identified could provide a basis for determining the desired outreach outcomes. A list of specific outcomes targeted for each constituency would enable the University to measure overall progress in outreach experiences.

**Institutional Issues and Challenges**

The University of Arizona, in keeping with its land-grant mandate, is committed to “improving the quality of life for the people of Arizona and the nation.” The University fulfills this part of its mission through the many outreach programs that extend its intellectual resources far beyond campus boundaries. A broad range of teaching, research, and creative activities serve populations not reached by most campus-based University programs.

Though the University’s outreach activities are many and diverse, opportunities for improvement exist in key areas. Continued progress in outreach is linked to the following issues.

- **Improve central coordination, tracking, and internal communication of various forms of outreach.**

  Outreach planning, management, reporting, funding, and assessment take place within the units responsible for the various activities. In spite of the outstanding quality of individual programs, they do not constitute a unified institutional outreach effort. Better coordination and communication could rectify weaknesses in overall outreach effectiveness such as redundant planning, narrow reporting and assessment, lost opportunities for communication with constituents, and insufficient collaboration among similar programs. Extended University’s outreach inventory project is an important first step, but more must be done to improve communication of outreach activities throughout the University and to constituents and legislators.

- **Raise community awareness of outreach activities.**

  In 1997-98, enrollments in all Extended University programs numbered more than 37,000. The extent to which members of the community and the state participate in, benefit from, and share in planning University outreach activities beyond those offered by Extended University and Cooperative Extension is not consistently documented, however. Appointment of the new vice president for university advancement demonstrates the high priority placed on improved communication with all external constituents and promotion of the University and its activities throughout the state and beyond.

- **Clarify the definition of outreach for all University personnel and give appropriate recognition to outreach achievements.**

  The definition of outreach is inconsistently interpreted among University populations. For example, some faculty view outreach as synonymous with service and exclusive of teaching and research/creative activity. Some believe that community volunteer work constitutes University outreach. Others disagree about whether externally funded endeavors should be considered outreach. Expectations and rewards for outreach activities tend to differ across campus departments and colleges. A commonly held definition of outreach would, in turn, lead to clearer communication of its range of expectations and relative importance within each unit and the University, and would facilitate reporting, tracking, and assessment of these activities. The University should embark on campuswide dialogue to clarify the definition, scope, expectations, and benefits of outreach.

- **Develop University-wide outreach assessment and measurement processes.**

  As already noted, many departments, colleges, and divisions contribute to the University’s outreach effort. Outreach activities are currently assessed during the individual unit’s Academic Program Review. Additional assessments from a Univer-
sity-wide perspective are needed to view particular activities in the context of the University’s goals. University-wide benchmarks and measurement tools would improve assessment, goal setting, and reporting. An institutional assessment would identify gaps and duplication in services, preventing some groups from being overserved while others are ignored. It also would ensure that external audiences (apart from University students, staff, and faculty who happen to live in the community) genuinely need the services offered.

Outreach as an Extension of Teaching, Research, and Service

EXAMPLES OF OUTREACH ACTIVITIES in Academic Colleges and Other University Programs/Units

Educational Programs – UA Students Off Campus

- Examples of activities through which UA students engage in applied learning through off-campus community service.

Arizona International College – All second-year students are required to complete 2-4 units of service learning. As of May 1999, 61 students have completed 5,290 hours of community service. In the AIC Livable Tucson Project, students collected, analyzed, and summarized quality-of-life indicators for presentations to the city council, the mayor, and the city police.

College of Education – Pre-service preparation programs (e.g., pre-professional volunteer opportunities, student teaching, internships, and field work) place 500-600 UA students in the local school systems. The UA South Office of Field Studies also provides a professional development program for pre-service teachers and practicing educators in Cochise County.

College of Medicine – The Commitment to Underserved People (CUP), part of the Program in Community-Responsive Medicine, is a medical student initiative offering early clinical experience in community service to rural and underserved populations in southern Arizona. Student leaders design, organize, and manage health programs and perform clinical work at the Homeless (Primavera) Clinic, the Pediatric Clinic of Nogales, the Women’s Health Clinic, and the Rural HIV/AIDS Education Program.

College of Social and Behavioral Sciences – Students in the Department of Journalism publish two newspapers: the local bimonthly edition of The Tombstone Epitaph and El Independiente, the nation’s only student-run bilingual newspaper. The monthly newspaper “El Indy” serves the mostly Latin-American community of South Tucson. Students receive course credit for these applied learning activities and gain valuable experience dealing with the problems and responsibilities of community newspapers.

Educational Programs – Continuing Education Students

- Examples of activities in which non-UA students can engage in continuing education sponsored by the University.
College of Agriculture – The College’s self-contained multimedia learning station, or “command center,” delivers distance education workshops to vocational teachers and students across the state. Using this system, one instructor can film a class at the University, produce a high-quality video, and send it directly to off-site participants.

Eller College of Business and Public Administration – The College offers two MBA programs on campus for full-time working professionals: the Weekend MBA and the Evening MBA.

College of Medicine – The Mini-Medical School is a six-week program loosely modeled after the curriculum at the UA College of Medicine. Taught each semester since spring 1998, this program is open to the general public for a nominal fee. Approximately 75-100 community members attend each session. The two-hour lectures, delivered by physicians with expertise in the various specialties, are designed to be fun and informative.

University of Arizona South – Contracts with various federal agencies have been signed to provide language training for active duty military and government employees. Online courses are available for instruction of Department of Defense personnel in Spanish, Russian, Arabic, Korean, Croatian, and Serbian.

Educational Programs – K-12 Students

- Examples of activities both on and off campus specifically oriented to K-12 students.

College of Education - Project SOAR (Student Opportunity for Academic Renewal) provides UA student mentors for middle and high school students who are at risk because of family or academic problems. This program has attracted funding from the Arizona Supreme Court and the Coca-Cola Foundation, and has grown to serve more than 300 students and teen partners in 19 elementary, middle and high schools state wide.

College of Fine Arts – The School of Music and Dance conducts a Ballet Arts Summer Intensive program offering dance study in ballet, modern, jazz and flamenco. Approximately 300 students, ages 8 to 18, study with UA dance faculty and guest artists. Enrollment is open to students in Arizona and Mexico. The Dance Division also offers a Creative Movement program to learners ages 2-9. Two ten-week sessions are designed to accommodate three different age groups. The objective of this early movement education is to develop social awareness, increase self-confidence, and enhance cognitive learning.

Intercollegiate Athletics – The Smith Project Speakers’ Bureau, established in 1990, recruits student-athlete volunteers to visit local schools to speak on issues such as setting and achieving goals, saying no to drugs and gang violence, handling peer pressure, and making the right choices. The number of schools served in the Tucson area per year is approximately 75-100, with an audience of more than 30,000 children annually. In 1998-99, 107 student-athletes participated in this program, sharing a total of 462 hours with community children.

UAPresents (the University’s performing arts presenting series) – UAPresents has created an extensive program around the School Time Matinee Series, which reaches out to Tucson’s teachers and students in grades K-12. This program won the 1999 Governor’s Arts Award for Excellence in Arts Education. Approximately 2,500 teachers and students attend each performance. A teacher’s workshop is provided before the School Time Matinees for 30 to 40 teachers, and residencies in selected local schools following the performance touch the lives of more than 700 schoolchildren.
Several Units - Outreach programs in several units offer precollege activities for minority students. Among these programs are:

The College of Engineering & Mines' Minority Engineering Program (MEP) - Each summer the MEP offers the Pre-College Engineering Workshops for Minorities and Women. The workshops are designed to expose high school students to the challenges and opportunities available to them in the areas of engineering and science.

The Whiteriver Junior High School Summer Math Camp - Sponsored by the Department of Mathematics in the College of Science, this camp has operated since 1989. Each summer twelve eighth-graders from Whiteriver Junior High School on the White Mountain Apache Reservation spend a week at an intensive summer residential program (on the UA campus) dealing with problem solving, computer skills and communication skills.

Early Academic Outreach and Development, under the Office of Undergraduate Education, operates two highly successful statewide early outreach programs: APEX and MESA. (1) The Academic Preparation for Excellence (APEX) program has the goal of significantly increasing the number of academically capable ethnic minority and economically disadvantaged students who successfully enter higher education. Schools (grades 6-12) in the nine participating districts sponsor APEX Clubs at which community professionals (lawyers, doctors, journalists, scientists, etc.), college administrators, professors, and university students speak. A two-week APEX Summer Enrichment Programs provides APEX students with a variety of academic classes. Over 90% of APEX graduating seniors enroll in colleges and universities. (2) The Mathematics, Engineering, Science Achievement (MESA) program, is designed to increase the number of underrepresented ethnic or economically disadvantaged individuals in professions related to mathematics, engineering, and the physical sciences. MESA is a collaborative effort of the UA, 13 local school districts (grades 6-12), and Arizona industries. Math and science teachers at participating schools and engineering, science, and mathematics professionals volunteer to provide guidance and education to MESA students. Approximately 95% of MESA seniors are admitted to institutions of higher education.

Educational Programs - Professional Training

- Examples of programs designed for working professionals in the community to stay current with advances in their fields and to retrain for other fields.

Eller College of Business and Public Administration - The college offers the Technology Industry MBA at the UA Science & Technology Park location for employees of local high-tech industries (such as Raytheon, IBM, and Allied Signal). The employers typically pay tuition and fees for participants.

College of Engineering & Mines - The Joint Arizona Consortium - Manufacturing and Engineering Education for Tomorrow (JACME2T) is a national model for collaboration between industries (Allied Signal, Raytheon, IBM, Boeing, and Motorola) and universities (UA, ASU, and NAU) to provide career-long, professional learning for graduate engineers who work in manufacturing and product development. By making use of innovative and appropriate means of delivery, JACME2T programs are affordable and accessible, and encourage learners to take active charge of their own ongoing education.

College of Humanities - One of the outreach goals of the University Composition Board, housed in the Department of English, is to support the improvement of the teaching of writing in area schools and community colleges through in-service workshops and a variety of special programs. One of these special programs is the Southern Arizona Writing Project, which offers a five-week intensive invitational Institute in the
teaching of writing, an open-enrollment institute, and numerous school-year programs for teachers.

College of Science – Sponsored by the Department of Molecular and Cellular Biology and funded by the Flinn Foundation, the BIOTECH Project is designed to help Arizona high school biology teachers use hands-on biotechnology in the classroom. The project assists teachers with carrying out problem-centered, hands-on biotechnology laboratory activities with their students. To provide in-classroom support, the project has created a mobile laboratory with equipment and supplies for biotechnology experiments. Through sustained partnerships with the BIOTECH Project, teachers acquire the expertise to use biotechnology in the classroom.

Research and Creative Activity – Community, State, and National Applications

- Examples of faculty research and creative activities that address the needs of local, state, national, and international communities.

College of Agriculture – The Water Resources Research Center was established in 1957 to facilitate university research at all three Arizona universities on water problems of critical importance to the state and region. Related missions are to communicate water-related research needs from users to researchers and to report research findings to potential users of that information.

College of Nursing – Among the federally funded research conducted by faculty in the college is a study to investigate “Nursing Intervention for Homeless Infected with Tuberculosis.” The goal of the research is to examine the effectiveness of an aggressive follow-up nursing intervention for homeless persons receiving prophylactic treatment for infection with tuberculosis.

College of Science – The National Center for Neurogenic Communication Disorders, housed in the Department of Speech and Hearing Sciences, is staffed by scientists, educators, students and supporting personnel who conduct research in areas that include muscular control of speech and voice production, auditory and visual perception of speech, and the impairment of language function after stroke or as a result of nervous-system disease. An important mission of the center is to educate the general public about the cause, prevention, and treatment of neurogenic communication disorders. Information is disseminated through a variety of media, including photo novels, video training programs, radio, and billboard advertisements.

Community Service Programs – Community and Economic Development Activities

- Activities that help Arizona benefit from regional and global economic developments and contribute to the fiscal well-being of communities.

College of Agriculture – The Arizona Meteorological Network (AZMET) provides meteorological data and weather-base information to agriculture and horticultural interests in southern and central Arizona. Data collected from a network of 20 automated weather stations serve as a basis for reports such as the Phoenix Area Turf Water Use Report and Weekly Cotton Advisories.

College of Architecture – Under the auspices of the college's Community Planning and Design Workshop there are ten ongoing projects within Tucson neighborhoods and rural and Native American communities.

Eller College of Business and Public Administration – The annual Economic Outlook Luncheon provides local businesses with a scientific forecast of the Tucson and Arizona economies and a discussion of national and international economic trends.
College of Science – The Department of Geosciences and the United States Geological Survey (USGS) have joined to form the Center for Mineral Resources (CMR), which focuses largely on economic geology and provides information for industry on mineral resources. The CMR is devoted to studies of the geological, practical, and societal aspects of mineral resources.

Division of Campus Life - Project Volunteer is a student program devoted to community service. The All-Campus Philanthropy Day held each spring involves nearly 200 UA students, staff and faculty volunteers who assist ten Tucson community agencies. Projects address the needs of the disabled, elderly and youth, and others in the local community.

Community Service Programs – Societal Problem Solving

• Examples of activities in which the University extends its expertise to solve specific societal problems.

College of Architecture – The Arizona Solar Oasis Project, developed by the Environmental Research Laboratory (ERL), covers two acres and two levels on the northwest side of the Phoenix Civic Plaza. This project was designed to be a public environmental education showcase presenting sustainable-energy and resource-efficient technologies and strategies for communities in desert regions.

College of Law – The college provides service activities to the public through its student-run clinical programs. Separate clinics exist for Child Advocacy, Domestic Violence, Immigration Law, and Tribal Law.

College of Social and Behavioral Sciences – The second annual Border Academy, cosponsored by the Mexican American Studies and Research Center and the Southwest Center, is a two week summer conference that examines the social, political, and economic issues impacting the U.S.-Mexico border region.

Community Service Programs – Cultural and Intellectual Enrichment

• Examples of activities that extend University resources for the cultural and intellectual enrichment of local, state, national, and international communities.

College of Fine Arts – The college provides hundreds of on-campus activities enjoyed by non-UA audiences each year (e.g., art exhibitions; musical, theatrical, and dance performances; and video and film programs). Practicing artists among the faculty have performed or displayed their works for local, regional, national and international audiences.

College of Humanities – The college has hosted its very popular Humanities Seminar Series since 1984. Five or six mini-courses are taught by prominent faculty annually “for the adult in serious pursuit of intellectual stimulation and enrichment.”

College of Social and Behavioral Sciences – The Committee on Judaic Studies sponsors the Judaic Studies Distinguished Lectureship Series at the Tucson Jewish Community Center. One of the lectures in 1998-99 drew a standing-room-only audience of more than 350 people. These lectures provide a service to the community and are supported by donors and cosponsors. Six lectures are planned for 1999-2000.

KUAT Communications Group – (KUAT-TV, the campus PBS affiliate; KUAT-FM/ KUAZ-FM, the campus NPR affiliate) – KUAT-TV produces award-winning video programs such as Arizona Illustrated, The Desert Speaks, and Reflexiones. KUAT Radio produces both classical and jazz programming for southern Arizona.
UApresents – The University’s performing arts presenting series offers to community audiences more than 50 performances each year in a wide range of forms, including Broadway musicals, classical, jazz and popular music, ballet, modern dance, Latin culture, international performers, and family matinees.

Libraries – UA libraries including the Main Library, the Health Sciences Library, the Science Library, the Law Library, the Center for Creative Photography Library, and the Arizona State Museum Library provide community access to information and materials both on campus and via the internet. The UA Main Library has developed the largest collection of community-based World Wide Web exhibits in the country.

Museums – The University has several museums and galleries that share its resources with the external community. Among these museums are the following: The Arizona State Museum has promoted public understanding and appreciation of the indigenous cultural histories of the American Southwest and northern Mexico since 1893. The College of Science’s Mineral Museum has one of the world’s best collections of minerals from Arizona and Mexico, housing over 20,000 specimens. The Center for Creative Photography is a museum and research center devoted to photography as an art form. The Museum of Art has one of the most complete university collections in the southwest of Renaissance and later European and American art.
Chapter 8

Assessment
CHAPTER 8: ASSESSMENT

Criterion 3: The institution is accomplishing its educational and other purposes.

Introduction

Throughout the past decade, the University of Arizona has engaged in a number of activities that have made assessment increasingly important in the University’s culture. The campus community has come to appreciate the value of assessment to program change, student learning, and the University’s performance.

This chapter addresses student assessment initiatives in relation to the University’s 1995 Student Outcomes Assessment Plan, describes student evaluation in the new general education program and in academic units, discusses faculty and course assessment with respect to student learning and achievement, and closes with institutional issues and challenges related to assessment. The chapter focuses on assessment programs, procedures, and infrastructure, whereas assessment data related to the instruction, research, and outreach aspects of Criterion Three are presented in chapters 5, 6, and 7.

Assessment of Student Learning

Student-Assessment Initiatives

At the time of the 1990 NCA Evaluation Team visit, student assessment was not integrated into the University’s strategic plan. Although several independent assessment activities took place before 1990, it was not until the current decade that organized assessment programs were implemented campuswide and assessment plans became part of the University’s strategic plan. Table 8.1 chronicles some of the University’s major student-assessment initiatives that gave rise to the current status of assessment.

Before the completion of the University of Arizona Student Outcomes Assessment Plan (approved by NCA in January 1996), the Arizona Board of Regents (ABOR), the governor’s office, and the Arizona legislature initiated various accountability efforts designed to improve teaching and learning. In particular, the ABOR Undergraduate Education Outcome Measures (presented in detail in the assessment section of Chapter 5) provided an incentive for improving undergraduate education (24). To meet these accountability goals, the University formulated measures of class availability, advising availability and quality, classroom adequacy, lower-division teaching by ranked faculty, education and training of baccalaureate recipients, student contact with ranked faculty, and integration of undergraduates into research-related activities. Data collection on these measures began in 1994 and annual reports of results are presented to the ABOR. Although mandated accountability measures do not always produce academic program improvements, they have given structure to the University’s deliberations on ways to make teaching, learning, and assessment more effective and efficient.
Table 8.1. Student Assessment Initiatives

<table>
<thead>
<tr>
<th>Date</th>
<th>Major Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984-present</td>
<td>Upper Division Writing Proficiency Exam (UDWPE) initiated to assess student writing.</td>
</tr>
<tr>
<td>1987</td>
<td>Plan for Assessing Undergraduate Education at the University of Arizona produced.</td>
</tr>
<tr>
<td>1988-present</td>
<td>Center for Research on Undergraduate Education created for survey and policy research.</td>
</tr>
<tr>
<td>1989-present</td>
<td>Enrollment Management Group established and convened.</td>
</tr>
<tr>
<td>1992</td>
<td>Program for the Assessment of Institutional Priorities (PAIP) mandated to evaluate all University departments.</td>
</tr>
<tr>
<td>1994-present</td>
<td>ABOR Undergraduate Education Outcome Measures established and implemented for Arizona public universities. These goals are designed to measure progress in undergraduate education.</td>
</tr>
<tr>
<td>1995</td>
<td>Office of Strategic Planning and Budgeting (governor's office) goals established for Arizona public universities.</td>
</tr>
<tr>
<td>1995</td>
<td>Student Outcomes Assessment Plan written. (Approved by NCA in January 1996.)</td>
</tr>
<tr>
<td>1995-present</td>
<td>Office of Instructional Assessment and Evaluation Services (IAES) established to support assessment of instructors and courses.</td>
</tr>
<tr>
<td>1995</td>
<td>Academic Program Review requirements revised to strengthen student assessment recommendations.</td>
</tr>
<tr>
<td>1997-present</td>
<td>University-wide general education program approved by the Faculty Senate in March 1997 and placed in operation in fall 1998.</td>
</tr>
<tr>
<td>1997-present</td>
<td>ABOR Report Card developed for Arizona public universities.</td>
</tr>
<tr>
<td>1998-present</td>
<td>University of Arizona Strategic Plan revised to reflect vision of a &quot;student-centered research university.&quot;</td>
</tr>
<tr>
<td>1998</td>
<td>Student Assessment Coordinating Committee (SACC) established.</td>
</tr>
</tbody>
</table>

Student Outcomes Assessment Plan

The University's plan to assess educational achievement and student outcomes was completed in December 1995 and approved by NCA in 1996. The Student Outcomes Assessment Plan represents a realistic, broad-based approach to monitoring, evaluating, and implementing improvements in teaching and learning (28). Student assessment under this plan is decentralized, faculty driven, and integrated into the evaluation and planning processes of each academic unit. Assessment at the program, department, and college levels reflects the nature of the academic discipline and the goals of the program. Specifically, a unit's assessment plan and its use of assessment results are reviewed and evaluated at the time of the unit's seventh biennial Academic Program Review (APR) mandated by the Arizona Board of Regents.

As part of the APR process, each academic program and department identifies intended educational program outcomes (including student learning outcomes), the methods used to measure those outcomes, and the way the measures are used to improve the program. In July 1996, review of each academic unit's Student Outcomes Assessment Plan became a component of the APR.

Academic Program Assessment

Academic Program Reviews: Every seven years each academic unit undergoes an Academic Program Review (APR), the primary purpose of which is to examine, assess, and strengthen programs. The five-step process includes: 1) initial planning, 2) self-study, 3) joint internal/external review, 4) discussion of findings with the provost, and 5) a report to the Arizona Board of Regents. The APR is a valuable way for the University to gather information on the quality and accomplishments of its academic programs.

Since 1996, the APR process has asked each program to describe how it assesses student learning outcomes. The information requested includes intended student outcomes, program goals, faculty involvement in assessment, data-collection methods, application of assessment results
to learning and instruction improvement, incorporation of assessment results into strategic planning and curricular review, and feedback to instructors, students, and external reviewers or accrediting organizations.

UA staff members skilled in research and survey design, statistics, evaluation methods, and psychometrics are available to support faculty as they plan effective student assessment in their programs. These employees work in Instructional Assessment and Evaluation Services (IAES), the Office of Curricular and Enrollment Research (OCER), and Decision and Planning Support (DAPS). Institutional data – including student survey results for incoming freshmen, students in midcareer at the University, and graduating seniors – are available to augment departmental assessment data. In addition, the University Teaching Center provides a variety of faculty-development services to support instructional assessment activities.

A review of APR self-studies (housed in the Office of Academic Planning and Review) shows that some units have integrated comprehensive and creative assessment activities into their academic programs and are using the results to improve curricula. Other units are making progress toward this goal. Many units need further assistance in developing student assessment activities. Plans to involve all academic programs in assessment are discussed later in this section.

**Exemplary Assessment Programs:** One college that has developed an exemplary assessment program is the College of Engineering and Mines (CoEM). In engineering, the Accreditation Board for Engineering and Technology (ABET) requires programs to demonstrate student proficiency through a defined assessment process with documented results. These new “EC2000” criteria have only recently been implemented, and the CoEM was one of the first such colleges nationwide to undergo accreditation using these guidelines. The accreditation visit took place in fall 1998, and all 12 undergraduate engineering programs have been accredited under the new guidelines. Additionally, the method of preparing for outcomes assessment developed by faculty in the college has been the subject of numerous presentations and workshops delivered for the benefit of other engineering colleges as they prepare for ABET accreditation.

The Department of English has also developed a comprehensive assessment plan, which is described in its recent APR. Assessment plans prepared by the colleges of Architecture and Nursing also are noteworthy.

**Assessment Pilot Project:** To achieve more thorough implementation of assessment by all departments, the University embarked on a pilot program for 20 academic units. Two or three departments in each college volunteered to participate in an assessment pilot project during the summer and fall of 1999. These 20 academic units, which include five professional programs, are listed below.

<table>
<thead>
<tr>
<th>Sciences Cluster ([Departments]:)</th>
<th>Fine Arts, Humanities, Social &amp; Behavioral Sciences Cluster ([Departments]:)</th>
<th>Professional Programs Cluster ([Departments]:)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Sciences</td>
<td>East Asian Studies</td>
<td>Accounting</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Economics</td>
<td>Dance</td>
</tr>
<tr>
<td>Computer Sciences</td>
<td>English</td>
<td>Management Information</td>
</tr>
<tr>
<td>Molecular &amp; Cellular Biology</td>
<td>Family Studies</td>
<td>Systems</td>
</tr>
<tr>
<td>Nutritional Sciences</td>
<td>Geography</td>
<td>Retailing</td>
</tr>
<tr>
<td>Physics</td>
<td>Media Arts</td>
<td>Teacher/Teacher Education</td>
</tr>
<tr>
<td>Plant Sciences</td>
<td>Mexican American Studies</td>
<td></td>
</tr>
<tr>
<td>Physiological Sciences</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The participating departments will demonstrate for the academic community how to develop good assessment programs and, with the experience gained, will form a cadre of faculty and support staff able to advise and mentor other academic programs in their colleges. As
individual units or clusters of similar units work their way through the assessment planning process, they will be able to take advantage of seminars to get the project started, consulting support, success stories from the UA and peer institutions, and best-practice examples of assessment instruments.

Each unit's progress toward implementation of its assessment plan will differ depending on the extent to which assessment already occurs within the unit. Therefore, some units are conceptualizing or refining their plans, others are testing their measures, and still others are beginning to accumulate data from assessment measures. Few, however, have attained the objective of using assessment results to document and improve student learning.

As this assessment pilot project spreads throughout the campus community it builds appreciation for assessment of student academic achievement as a productive way to understand and improve teaching and learning. The project's success will depend on how effectively the participating departments develop goals and expectations, identify measures to assess desired outcomes, monitor student progress toward the outcomes, and use the assessment results to improve instruction and learning.

Assessment Activities, Methods, and Measures: Academic units preparing their own assessment plans, as well as the units participating in the assessment pilot project, may draw on a number of assessment measures and methods, as outlined in Table 8.2.

Table 8.2. Overview of Assessment Activities & Methods/Measures

<table>
<thead>
<tr>
<th>Student Focus</th>
<th>Course Level</th>
<th>Program Level</th>
<th>University Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement</td>
<td>- Scores on tests, writing assignments, problem sets.</td>
<td>- Performance reviews</td>
<td>- University-wide writing proficiency examination</td>
</tr>
<tr>
<td></td>
<td>- Course grades*</td>
<td>- Student portfolios</td>
<td>- Employer and alumni surveys</td>
</tr>
<tr>
<td></td>
<td>- Student portfolio</td>
<td>- Professional licensure exams</td>
<td>- Institutional review of Academic Program Review (APR) results</td>
</tr>
<tr>
<td></td>
<td>- Standardized achievement tests such as GRE, LSAT, etc.</td>
<td>- Aggregated course-level data</td>
<td>- Institutional review of standardized achievement measures</td>
</tr>
<tr>
<td></td>
<td>- Employer surveys</td>
<td>- Employer surveys</td>
<td>- Entrance and exit interview of students (e.g. PRFI)</td>
</tr>
<tr>
<td></td>
<td>- Examinations and requirements for specialized accreditation (for example, in professional schools)</td>
<td></td>
<td>- Surveys and aggregated student ratings of instruction</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>- Focus groups</td>
<td>- Entrance and exit interview of students</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Observation by peer or consultant</td>
<td>- Surveys of students, alumni, employers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Midterm and end-of-semester student ratings of instruction</td>
<td>- Progress to electives and retention tracking</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Tracking course completion, drop and withdrawal rates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td>- Teacher-made pre- and post-surveys in courses where student development objectives apply</td>
<td>- Drug and alcohol awareness surveys</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Campus climate surveys</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Service learning measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Quality of residence life measures</td>
<td></td>
</tr>
</tbody>
</table>

* administered within college

General Education Assessment

The new University-wide general education program (described in Chapter 5) was placed in operation in fall 1998. Assessment of the foundation-skills component of general education—mathematics, English, and a second language—begins with the administration of placement examinations to entering freshmen and transfer students. Assessment of the Tier One and Tier
Two components of general education has progressed in stages that parallel the transition from the old program to the new program, as described below.

In spring 1997, the UA Office of Instructional Assessment and Evaluation Services (IAES) prepared a report summarizing student and faculty evaluations of the general education pilot courses offered that academic year. The report influenced refinements in the pilot courses offered in preparation for the fall 1998 implementation of the new general education curriculum.

A subcommittee of the University-Wide General Education Committee met during spring 1999 to develop an assessment plan for the new general education program. Under the auspices of this committee, 13 faculty members who teach general education courses were supported during the summer to propose methods for assessing both the courses and the student learning outcomes in general education. The 13 faculty members formed three subcommittees to explore 1) nationally normed tests, 2) attitudinal surveys, and 3) methods of regularly reviewing all general education courses to ensure that they continue to meet guidelines. (The University-Wide General Education Committee spends much of its time reviewing and evaluating new course proposals to ensure that they meet guidelines.)

The University’s general education program is in its second year. Therefore, the results of student outcome assessments are incomplete. The Student Assessment Coordinating Committee (described in the following section) will work closely with the University-Wide General Education Committee to review the assessment plan for the general education program and to ensure that valid and reliable student learning outcome measures are established.

A number of student surveys developed during the 1990s include questions useful in the assessment of general education. The survey instruments and results are on the Web site for the Office of Curricular and Enrollment Research (www.ocer.arizona.edu). Some of the surveys provide important student feedback on topics such as course availability, advising, faculty accessibility, student attitudes, quality of support services, and other issues related to student progress and success. Surveys are administered to entering freshmen and transfers, first-semester juniors, graduating seniors, and alumni.

**Student Assessment Coordinating Committee**

The provost and the deans, through the Academic Council, provide the incentives and mandate for implementation of the 1995 Student Outcomes Assessment Plan. They have established the Student Assessment Coordinating Committee (SACC) to assist in this effort. The SACC coordinates the University’s student assessment program and ensures that assessment efforts in departments and major programs (through the APR process), in general education, and in student development areas are appropriately developed and articulated. The committee includes faculty and administrators, as well as members from offices that provide technical support and institutional data: the Office of Curricular and Enrollment Research (OCER), Decision and Planning Support (DAPS), and Instructional Assessment and Evaluation Services (IAES).

Although the primary focus of SACC is on the “bottom line” of student learning outcomes, an important committee objective is to communicate the theoretical basis of effective assessment, which requires an understanding of the teaching-learning process as a complex system with inputs, processes, and products. By conveying fundamental assessment principles, SACC is fostering a campuswide transition from assessment as a reaction to demands for accountability – to assessment as a continuous source of knowledge essential for instructional improvement.
In January 2000, the University will host a symposium on assessment – Strategies for Success: Assessing Learning and Teaching at the University of Arizona. The symposium is sponsored by Provost Sypherd and directed at the UA community. SACC will play a major role in planning and directing the symposium. Intended to reinforce the importance of assessment at the UA, the symposium has the following goals: 1) to promote better evaluation practice at both the course and program level, 2) to improve understanding of the benefits of evaluation and its place in a student-centered research university, and 3) to contribute to a culture that views assessment as fundamental to a scholarly approach to teaching and learning.

President Likins will deliver the symposium’s opening address. Panels of deans, department heads, and distinguished faculty will provide information about assessment resources on campus, describe examples of effective assessment programs, and address faculty questions and concerns. Breakout sessions will focus on topics such as improving multiple choice tests, using portfolios at the course and program level, and preparing for academic program reviews.

Faculty and Course Assessment

Teacher and Course Evaluation

Assessment of student satisfaction with courses and instructors has grown steadily over the past decade. The Office of Instructional Assessment and Evaluation Services (IAES) administers teacher and course evaluation services for the campus, including midsemester instructional assessment focus groups, and the end-of-semester Teacher-Course Evaluation (TCE) form. The TCE, which solicits student ratings of courses and instructors, is used by almost 80% of UA departments and academic units. Several types of TCE forms have been developed, allowing faculty or departments to select the form most appropriate for each course. For example, TCE forms are available for lecture courses, laboratory sections, discussion sections, studio courses, and team-taught courses, and summer session courses. Several academic units, however, have worked with IAES to develop customized forms. The evaluations are administered by student monitors and are scored free of charge by IAES.

Summaries of TCE results are provided by IAES to individual instructors and to administrators in participating units each semester. The results can be used to improve courses and the overall curriculum. A number of academic units include TCE results in the promotion and tenure review process and in annual performance (including post-tenure reviews). TCE results for selected “core” questions are posted on the Associated Students of the University of Arizona (ASUA) Web site at the conclusion of each semester. As a result, students, faculty, and academic administrators can ascertain the satisfaction of students with their classroom instructional experiences. (The section “Assessment of Faculty” in Chapter 5 presents TCE results of student evaluations of teaching effectiveness.)

During the 1990s, several initiatives emphasized to UA faculty the importance of developing effective student outcome measures within courses. The initiatives include the annual instructional computing grant program, the availability of external funding for innovative course and curriculum projects, the advent of the new general education curriculum, and the accessibility of new instructional media and methods. Course proposals and syllabi with clear statements of course goals, student learning outcomes, and assessment techniques are generally more successful in the competition to participate in these initiatives.

Assessment of Faculty

Ensuring that student assessment has an appropriate and useful impact on learning and teaching is essential to the University’s assessment program. Consequently, stronger linkages among student assessment, faculty development, and faculty performance review have been established. Recently revised University standards for promotion and tenure, post-tenure, merit, and periodic reviews call for evaluations of teaching performance to be considered.
Such evaluations will motivate faculty to maximize the use of student feedback and faculty development services.

Several faculty development initiatives and activities are under way to improve instruction at the University. (See the section “Faculty Development” in Chapter 5.) The involvement of large numbers of UA faculty members with new instructional technologies, course redesign, and teaching methods that promote active learning is unprecedented in recent UA history.

**Posttenure Review:** The Board of Regents mandate for annual post-tenure review has been incorporated into the revised University Handbook for Appointed Personnel, which delineates the official UA policy on both the annual performance review for all faculty and administrators, and post-tenure review for tenured faculty (18). An annual dean’s-level audit of 20% of dossiers produces virtually 100% review of faculty files every five years. The dean’s-level audit also provides information about how well departmental performance-appraisal systems are working. (The post-tenure review process is described in more detail in the assessment section of Chapter 5.)

**Institutional Issues and Challenges**

The University’s student assessment program is progressing well. It has produced valuable changes in University curriculum, teaching, and learning, though, predictably, implementing assessment recommendations across the campus of a large research university has not been easy. Remaining issues and challenges are described below.

- **Expand the number of academic programs that use assessment of student learning outcomes to improve their programs.**

  Several departments have implemented comprehensive student assessment plans. To help those that have not, the University has begun the Assessment Pilot Project consisting of 20 academic units that will form cadres of experienced faculty and support staff within the colleges. They will advise and mentor assessment initiatives within their own units and in other academic programs in their colleges.

- **Build on initial efforts to assess the effectiveness of the University’s new general education program.**

  The University’s new general education program is in its second year. Evaluations of pilot courses and their instructors played an important role in shaping the program, and there are plans to evaluate all Tier One and Tier Two courses regularly. Additional planning is required to assess student learning outcomes and apply the results to further improve the program.

- **Establish a campuswide commitment to the value of assessment for continuous improvement of student learning.**

  The University has made progress in developing a culture that understands and appreciates potential gains from assessment activities. A continuing challenge, however, is to use the many existing assessment resources and activities to act on assessment findings and thus improve student learning. The Student Assessment Coordinating Committee (SACC), the University-Wide General Education Committee, the University Strategic Planning and Budget Committee, and the office of the provost must collaborate to oversee and ensure broad-based implementation of the University’s *Student Outcomes Assessment Plan*. In addition, the institution must employ assessment techniques to evaluate progress toward student-centered research university objectives.
Chapter 9

Capacity for Continued Effectiveness
CHAPTER 9: CAPACITY FOR CONTINUED EFFECTIVENESS

Criterion 4: The institution can continue to accomplish its purposes and strengthen its educational effectiveness.

Introduction

The University of Arizona is well structured to ensure both integrity in the use of its resources and flexibility in a rapidly changing global environment. It regularly demonstrates the ability to marshal necessary resources without compromising its principles and standards of excellence. The University manages judicious shifting of resources when needs arise, such as maintaining and upgrading information technology, improving undergraduate education, and developing as a student-centered research university.

This chapter substantiates that the University has the resources and the structured planning, decision-making, and assessment processes necessary to accomplish its purposes now and in the future. The chapter begins with a review of changes made during the 1990s in planning and resource allocation processes, and a scan of the environment in which the University operates. The remainder of the chapter, drawing from Chapter 4's account of the University's human, financial, and physical resources, attests to the institution's effective management of its internal resources, responsive planning and decision-making processes, and thorough assessment processes for accountability and continued improvement.

Restructuring the Planning and Resource Allocation Processes

During the last decade, the University has developed a more inclusive planning process and a more diversified resource base. In 1990, the NCA Evaluation Team appraised the UA planning and resource allocation process as narrowly defined and largely guided by the central administration. At that time, participation of faculty and other stakeholders in key deliberations on resource allocation was generally limited and informal. Student and staff participation was minimal. State appropriations, which had been on the rise for two decades, were suddenly curtailed in 1991, resulting in budget reductions and reallocations of $23 million. The reductions, affecting mostly noninstructional and support activities, nevertheless affected virtually every department of the University.

The University's 1990 Self-Study and the NCA Evaluation Team concerns, confirmed by the stark financial realities of the next few years, made a case for significant change if the University were to maintain its status as a top-tier, nationally respected institution. More inclusive and diverse participation in planning and budgeting was essential. Without such involvement, the institution might have succeeded in building isolated pinnacles of excellence but would have made little or no progress toward long-term goals. In all likelihood it would have fallen short of its responsibilities to a broad array of constituencies and to create a culture of community. Since 1990, the University administration, led by presidents Kofler, Pacheco, and Likins, has met this critical challenge and continues to make strides in the development of an inclusive and participatory planning process.

As the planning and resource allocation processes have come to include greater participation of faculty, staff, students, and other stakeholders, the University itself has changed. Restructuring these processes has clarified not only how the University values its programs and activities but also how it develops and supports its human potential. From the restructuring process has emerged a vision of the UA as a preeminent student-centered research university, a guiding principle in decision making today. Further, the 1995 strategic plan united the University's responsibilities in instruction, research, scholarship, and outreach with its commitments to improve relationships with individual constituents and support individual achievement.
Today, the University's financial, physical, and human resources are substantial. The all-funds budget is more than $876 million and endowments exceed $242 million. On the Main Campus and at the Arizona Health Sciences Center, the 169 buildings constitute 7.8 million square feet on 352 acres. Institutional policies and procedures are consistent with applicable Arizona state law and Arizona Board of Regents requirements regarding academic and business practices. At all times, including periods of uncertainty or change, the University promotes inclusive participatory planning and decision making, informed by data and assessment. With renewed commitment to improvement of programs both on campus and for its many external constituencies, the University affirms that it meets Criterion Four: "to continue to accomplish its purpose and strengthen its educational effectiveness" well into the future.

**The External Environment and Scan**

The state constitution designates the Arizona Board of Regents (ABOR) as the appointed governing body for the three major universities in the Arizona system. The Arizona legislature has appropriation authority over all state agencies and thus has a powerful voice in the funding and direction of the universities. Particularly important are the recommendations of the Joint Legislative Budget Committee (JLBC) staff (for operating funds) and the Joint Committee on Capital Review (JCCR) staff (for all capital projects). Finally, the governor, via the Office of Strategic Planning and Budgeting (OSPB), also assumes a significant role in funding the university system. Arizona, as a growing state with only two major metropolitan areas, faces escalating demands on its budget for infrastructure development and new services. Thus the universities must compete vigorously for their share of state resources.

Changes over the past decade in revenue and expenditure patterns at the University of Arizona and its various campuses reflect higher-education trends nationwide. According to the National Center for Educational Statistics, between 1985 and 1995 government appropriations— as a share of total revenues at public universities—fell just under 12% per full-time-equivalent (FTE) student. Expenditure patterns also have changed. Between 1985 and 1995, instruction spending fell 3% and research spending rose 3% as a share of total expenditures. As the University of Arizona enters a period of accelerated student-population growth, such trends will tax its ability to diversify its revenue base, improve program delivery, and direct resources to the most pressing needs and priorities.

For Arizona, among the most pressing needs articulated in the ABOR strategic goals are to improve undergraduate education, meet expected enrollment increases, strengthen graduate education, enhance research and impact economic development, assure access to public education, capitalize on new and emerging technologies for program benefit, improve efficiency and accountability, and strengthen essential relationships with stakeholders (2). Other issues derived from these goals include: maintaining affordable tuition levels; ensuring access and diversity; limiting out-of-state student enrollment to 25% of the total; meeting goals for direct faculty involvement in undergraduate instruction; promoting articulation with the community college system; developing substantive mechanisms for reviewing faculty performance; and pursuing privatizing operations as appropriate.

Arizona legislators have recently proposed establishing minimum levels of teaching effort for faculty, curtailing general-fund increases for universities, and limiting budget increases to legislated new programs and other specified needs. At the same time, the legislature disregarded the effects of general cost increases on university operations and the importance of maintaining competitive salaries.

The legislature's position on higher-education funding has been constraining to the University. For example, for the 1997-98 academic year the legislature made ranked-faculty merit salary raises conditional on teaching-contact-hour requirements in order to increase direct faculty engagement with the instructional program. A legislative mandate added to the 1999-2001
appropriation bill now requires universities to annually report teaching-productivity increases using a distribution matrix to identify teaching loads by ranked faculty. In addition, a new ABOR measure requires annual reports of the percentage of full-time lower-division students who have two or more courses each semester taught by ranked faculty. The intent is to ensure that students have ample contact with faculty early in their academic programs. (See the assessment section of Chapter 5 for results of selected undergraduate education outcome measures.)

For the UA, these mandates have forced internal reallocations and changes in processes and workloads to cover escalating program costs, provide a greater share of salary increases, and make expensive information-technology investments. While the University benefited substantially throughout the 1980s from state allocations for decision packages, the 1990s were far leaner, with only limited incremental state funding allotted for new programs and formula-based funding adjustments (both up and down) for enrollment changes.

The ABOR and the Arizona legislature have been sympathetic to the needs of developing branch campuses. Significant funding increases have been provided to UA South, where substantial enrollment growth is expected to occur. The Arizona Health Sciences Center, however, is constrained by other external factors. For example, low HMO reimbursement rates for a heavily subscribed Tucson metropolitan area could impair the quality of instruction and clinical experiences for students in the College of Medicine.

Arizona budget reform measures of the mid-1990s have attempted to link planning and budgeting for all state agencies more closely than ever before. As a result, the University now submits an updated strategic plan annually and the Master List of Programs every other year, each conveying measurable goals and progress toward those goals. In addition, the Arizona Board of Regents Report Card and the Undergraduate Education Outcome Measures contain performance goals and measurements to guide the University’s decisions and plans for future effectiveness.

### Internal Resources

**Human Resources**

A fundamental goal of the University, as articulated in the strategic plan, is “to improve the way that all members of the University community are supported.” This goal expresses the institution’s commitment to every member of the University community and recognizes that the essence of the University is its people. Progress toward this goal is evident in the programs developed to increase support services for students, staff, and faculty (addressed in chapters 4 and 5), to promote greater involvement of faculty, staff, and students in campus planning and decision making (addressed in chapters 3 and 4), and to improve the campus climate (addressed in chapters 5 and 11). These enhancements help to ensure future effectiveness in carrying out University programs.

In 1997 the (renamed and reorganized) office of the vice president for campus life took on responsibility for both student and employee matters and reports directly to the president. The Division of Campus Life, through its four units – Health and Wellness, Student Life, UApresents, and Human Resources – creates and operates programs and services that engage the social, cultural, professional, spiritual, and intellectual lives of all members of the University community. This organizational change has focused and renewed campuswide efforts that are essential for long-term success in building a vibrant campus community.

Of the 12,781 employees working at the University in 1998-99, faculty represented approximately 18.9% of the total; teaching and research assistants were 19.2%; support, service, and technical professionals accounted for 36.9%; staff were 23.7%; and administrators were 1.3% of the total (see Table 4.1 in Chapter 4.) The distribution of personnel reflects the variety of activities that are essential to a large research university.
During the past five years, the following changes in staffing occurred:

- Overall employment increased by 386, with 56% of the increase coming from grant, contract, and local fund sources.
- The number of regular faculty decreased by 61, though the decrease was offset by an increase of 59 in "other" and temporary faculty.
- The number of professional appointments grew by 198.
- The number of graduate teaching and research assistants decreased by 65.
- Facilities and administrative support personnel totals increased by 56 and 104, respectively.

The five-year decline in the number of regular faculty and graduate teaching and research assistants is of great concern; if unchecked, the trend could have a detrimental effect on the University's capacity to maintain the quality of its academic programs and could potentially compromise class availability for students. The UA Budget Team and SPBAC are addressing the issue as a matter of strategic importance affecting instructional and research programs.

Employee Development and Training

Two human resource responsibilities – recruitment and training – must remain priorities if the University is to extend its capacity for continued effectiveness. University policy contains stringent guidelines for all aspects of recruitment and hiring, as a means of ensuring "that the University will attract and retain the most highly qualified workforce available." It decentralizes responsibility for employment and for the development of most candidate pools from which selections are made. Recognizing the family needs – including dual-career requirements – of many new employees, the University offers services such as the Accompanying Partners Employment Program, child care services (including day care for sick children), and the Elder Care and Life Cycle Resources program.

Education and training are essential for long-term employee effectiveness. The University, through Human Resources and other units, provides such opportunities for all personnel. Information-technology training, essential for many positions, is available through classroom, individual, and computer-based instruction.

Because information technology has become indispensable to the educational experience, the University is helping faculty and staff to develop technology skills in a number of ways, including:

- The Learning Technologies Partnership, which offers training for faculty members who wish to integrate technology into their teaching. In association with the partnership, the Faculty Center for Instructional Innovation (FCII) provides workshops on multimedia authoring, access to state-of-the-art computer equipment, and assistance with new instructional software.

- Computer-Based Training (CBT) in more than 300 topics, allowing all members of the University community to learn computer skills via free Web-based courses in places and at times convenient to them.

- Human Resources, Systems Control, and Payroll, which have initiated a pilot program to train and certify office and administrative staff in a variety of administrative processes and the use of technology to support these processes. This program answers perennial concerns about the lack of standard procedures, training, and transferability of skills.

- The Center for Computing and Information Technology (CCIT), providing numerous technology-related programs and services – including computer training and workshops, access to multimedia and visualization equipment; and the Faculty Resources for Instruction program.
• The University Libraries, where knowledgeable staff members teach a series of popular Internet training classes, including basic and advanced Web page design, for faculty, staff, and students who wish to communicate in the new electronic information environment.

In addition to the programs and services designed to enhance technology skills of employees, the following services and programs support the development, training, and well-being of UA faculty and staff:

• **Human Resources** offers the University Leadership Institute, a comprehensive, integrated development program for managers and supervisors. The institute is a certificate program with a curriculum of more than 30 courses and activities offered each year.

• The **UA Life and Work Connections** programs include Worksite Wellness (health screening and lifestyle consultation), the Employee Assistance Counseling and Consultation (EACC) service, and short courses on life-skills topics such as parenting and stress management.

• The **Office of Instructional Assessment and Evaluation Services** provides assessment and evaluation support services – including grant-development assistance, analysis of results from student evaluations of teachers and courses, test scoring, survey preparation consultation, and program and curriculum assessment support – to members of the University community.

• The **University Teaching Center (UTC)** staff helps faculty members with instructional support resources. Consultation, workshops, and a variety of instructional materials are available.

• UA involvement in the **American Council on Education (ACE) Project on Leadership and Institutional Transformation** and a three-year, $1.5 million grant from the **W.K. Kellogg Foundation** for “The People Environment at the University of Arizona” has permitted the University to make substantial investment in leadership development for academic unit heads, including three annual retreats for department heads, an orientation for new heads (“New Head Ed”), and informal monthly forums, called “Heads-Up,” for department heads.

• **Human Resources** development programs include more than 40 short courses and workshops on topics dealing with communication strategies, career development, University processes, supervisory skills, planning and organizing, and information technology.

• The **Arizona Health Sciences Center (AHSC)** offers faculty and staff a wide range of skills training classes, including online searching, presentations and graphical design, computer and electronic communication, and writing for the Web.

**Financial Resources**

During the past decade, Arizona’s state universities, along with other public higher-education institutions in many states, have lost ground with respect to the proportion of the state budget and personal income spent on higher education. Although state budgets have increased significantly and appropriations to the universities have increased, these appropriations have not kept pace with inflation, new program demands, and the costs of regulation and compliance. In response, the University has focused on strategic resource management in order to improve its programs in the face of limited resources. It has eliminated unnecessary restrictions in the use of financial resources, reallocated funds to better support high-priority programs and services, managed enrollments more effectively to ensure a stable and predictable student population, and renewed development efforts to broaden the funding base.
To guide these efforts and to assure that resources are applied according to institutional plans and priorities, the Strategic Planning and Budget Advisory Committee (SPBAC) serves as a representative and fact-finding body of the campus community. The work of this committee has resulted in the development of Strategic Guiding Principles and Near Term Funding Guidelines that inform the University administration and the UA Budget Team of issues to be considered in each budget cycle. Given the campus’s decentralized financial environment, deans, vice presidents, and department heads assume the primary role for both long-term and day-to-day resource decisions affecting their units.

For Arizona, low in-state tuition and broad access to higher education are high priorities. Overall, tuition represents only 16.9% of the University’s 1998 operating revenues, up only 2% since 1989.

For Arizona, low in-state tuition and broad access to higher education are high priorities. Thus, while tuition has increased every year but one during the decade, in-state tuition remains low and out-of-state tuition has grown to reflect the full cost of instruction for nonresidents. Overall, tuition represents only 16.9% of the University’s 1998 operating revenues, up only 2% since 1989.

Tuition policy is a critical aspect of the University’s financial resources and is directly related to the size, diversity, and quality of the student population. While significant marginal tuition revenues are possible from out-of-state residents, ABOR policies limit nonresidents to 25% of the student population, a share that the University now exceeds by approximately 4%. Forced compliance with the out-of-state resident limits would severely affect operating resources and necessitate in-state tuition increases. An enrollment task force is considering options to bring the University back in compliance with the 25% limitation.

The University is committed to attracting the best students, ensuring diversity, and welcoming economically disadvantaged students. ABOR policy mandating that a portion of tuition dollars be set aside for financial aid, coupled with University reallocations and new funding, has made available $28.3 million more financial aid in 1998 than in 1990. Thus, the issue of tuition revenue – with its effect on the number and quality of resident and nonresident students, and on the mix of graduates and undergraduates – is a key strategic issue being addressed by the UA Enrollment Management Committee and associated working groups.

Early in the decade, with the state appropriation inadequate to support essential personnel, the University shifted funds from operating and capital allocations. This strategy, while necessary in order to prevent excessive damage to important programs, has depleted ongoing capital-equipment funding, straining the institution’s ability to provide the equipment and technology upgrades essential to its Research I status. Likewise, salary competitiveness remains a pressing issue for all departments. State appropriation increases earmarked for salary adjustments have failed to keep pace with the market, making the University especially vulnerable to competition for talented employees, particularly faculty. In the face of these budget challenges, units have accomplished their objectives through increased budget flexibility and internal reallocations, but the underlying stress resulting from obtaining only limited new resources remains. This situation, if unchecked, could hamper future program development and competitiveness.

For the University of Arizona to maintain quality at all levels, the judicious and prudent use of its monetary resources is essential. The University’s financial statements are audited yearly by the Arizona Auditor General’s Office. This audit analyzes the University’s schedule of bonds, certificates of participation, and capitalized lease obligations as well as schedules of expenditures of federal awards. The audit for the 1998 fiscal year found the University in compliance with generally accepted accounting principles.

In addition, the University’s internal audit office and the Board of Regents audit staff conduct periodic audits of specific financial units and practices. Federal grants and contracts are subject to regular audits by the Department of Health and Human Services. These audits attest to the financial health, management, and integrity of the University. Beyond meeting regulatory demands, however, the University’s budget and finance offices operate with remarkable efficiency and continually strive for improvement. Achievements during the past decade
include electronic processing of requisitions, greater use of prepaid purchase orders, transfer of the internal audit function to the controller’s office, and improvement of electronic access to financial records.

The University of Arizona, like many other institutions, is straining to accomplish basic educational, research, and outreach objectives even with an annual budget of $876 million. The institution is underfunded in comparison with peers, as demonstrated in the analysis prepared by Professor John Schwarz (published in Higher Education Issues as “Arizona’s Public Universities: Keeping Them Accessible, Affordable and Excellent”). Although research expenditures have grown during the past 10 years, reflecting the faculty’s success in generating more grant and contract support, those most successful often are the targets of recruitment efforts by other institutions. The University faces continual pressure to raise salaries so they remain competitive with the market, to invest in new information technologies, to support academic programs and business functions, to fund needed facility renovations and new buildings, and to generate flexible resources to meet emerging demands. Delivering these services in the future will require that the University continue to seek and employ creative approaches and funding solutions.

Development and Fundraising

Development and philanthropy are essential to the long-term success and growth of the University. President Likins has emphasized that the University’s continuing health depends on all resources attracted to the institution and that much more attention must be given to increasing the endowment.

The institution must maintain strong relationships with the University of Arizona Foundation (UAF), the Alumni Association, and affiliated foundations to ensure the long-term support, development, and improvement of its programs. While growing substantially each year, the endowments and discretionary fund holdings of the University, combined with those of the UAF, fall well behind our peers and have been insufficient to provide the levels of student aid, support of outstanding scholars and chairs, and construction required in the years ahead. Significant progress has been made in development and fundraising in the professional colleges, including law, medicine, and pharmacy, and in the Eller College of Business and Public Administration and the College of Agriculture. Nevertheless, it is essential to increase UAF fundraising efforts and donor contributions in order to support students, faculty and programs more substantially.

The establishment of the office of vice president for university advancement is a first step in expanding the UA donor base and building stronger relationships with the community, government officials, industry, and potential donors. Planning is under way for a major fundraising campaign designed to generate $500 million to $750 million. The official announcement of Campaign Arizona and its funding goal is planned for October 2000. The University and the UAF recognize the importance of connecting the fundraising efforts to the needs of the University as well as the preferences of donors. To ensure that campaign planning is consistent with program needs, SPBAC has solicited and reviewed proposals from all quarters of the campus. More than 200 proposals have been considered and the projects incorporated into the gift campaign plans.

Planning is under way for a major fundraising campaign designed to generate $500 million to $750 million.

As plans for Campaign Arizona develop, several major themes are likely to emerge, including an increase in endowment holdings to support student financial aid and faculty chairs, funds for campus building construction and renovation, and increased departmental resources to
improve services and academic programs that support the University’s growth as a pre-eminent student-centered research university. The funds raised through the gift campaign will further strengthen the University and broaden the resource base essential for program improvements.

Space and Facilities

Although a number of new buildings – including the Aerospace and Mechanical Engineering Building and the University Services Building – have been completed in recent years, the University continues to lack sufficient laboratory, library, and office space. (Data on space shortages are included in Chapter 4 in the section on physical resources.) In 1999, the UA Office of Space Management gave the Board of Regents a fall 1998 inventory that indicates the following space shortages relative to ABOR Standards (13):

- Research laboratory space, 523,485 ft²
- Library space, 277,075 ft²
- Classroom laboratory space, 223,258 ft²
- Office space, 52,173 ft²

With the exception of a single building funded by the 1999 legislature for construction at the University of Arizona South in Sierra Vista, all recent building construction has been debt or gift financed. Inadequate state funding for construction, coupled with strict requirements to consult with neighborhoods adjacent to the University, has slowed construction over the decade.

The president and the vice president for campus life have articulated their vision of a campus that is a rich living and learning center. High on the University’s list of construction projects are two new residence halls for undergraduates and apartments for graduate students and their families. These accommodations will make undergraduates, graduate students, and families a more integral part of the campus community. The undergraduate residence halls, in particular, will maximize the number of freshmen living on campus, promote a sense of community among these new students, and improve retention in this vulnerable group.

The FY 2000-2003 capital improvement plan includes a number of construction and renovation projects scheduled for the next few years that will alleviate space shortages and improve services on campus. The following projects are either under construction or planned for construction:

- **Integrated Learning Center (ILC):** a home base for first-year students, with space for enhanced learning services, an information commons, and advanced technology in classrooms and lecture halls (under construction as of September 1999)

- **Student Union/Bookstore Renovation:** a $60 million transformation of the existing facility through a combination of construction and renovation, which will significantly improve services to the campus community (under construction as of August 1999)

- **Strategic Alternative Learning Techniques (SALT) Center:** a leading-edge support facility for students with learning disabilities
Main Library Improvements: renovation and addition of 29,100 GSF, to address space and functional requirements for special collections, reference services, and technical services

Chemistry Building Addition: an addition of 58,000 GSF to the Old Chemistry Building for instructional and research laboratories and departmental activities

Health and Wellness Commons: a new building to replace existing inadequate facilities and bring together the Campus Health Services, the Center for Disability-Related Resources, and Employee Wellness

Parking and Office Building Construction: a multimodal transit facility with roughly 1,500 parking spaces and office space for Parking and Transportation Services

University Housing Construction: two new residence halls to improve on-campus accommodations for undergraduate students

Architecture Building Addition: instructional studios, computer laboratories, faculty offices, and a technology laboratory

Environment and Natural Resources (ENR) Phase II: a total of 113,400 GSF of research and supporting space

Optical Sciences Expansion: 28,000 GSF for optical science research and support

In addition, both the University of Arizona South and Arizona International College have the potential to alleviate space shortages. The multipurpose instructional facility approved and funded by the legislature for UA South will not only expand opportunities for higher education in southern Arizona but also provide additional classroom and computer lab space. The probable relocation of Arizona International College, which is currently adjacent to the main campus, presents a range of opportunities for future development.

Research space shortages remain critical. Although some activities have moved to the Science and Technology Park, institutional building priorities in the UA capital improvement plan through 2003 emphasize additional research space on campus as essential to accommodate new and expanded research programs.

Planning and Decision-Making Structure

University Administration and Organization

As described in Chapter 4, academic decision-making authority was decentralized in 1994-95 under the direction of President Pacheco and Provost Sypherd. Deans and department heads, more familiar with their units' programs and operations than the central administration, were empowered to respond rapidly and knowledgeably when decisions were needed. Similarly, responsibility and authority for resources were decentralized for greater agility in meeting operational needs and programmatic opportunities.

These changes have proven very effective, and they have the strong support of the academic deans. President Likins has advanced the evolution of participatory administrative practices by making them more inclusive, better informed, and more open. The realignment of vice presidential positions to better support undergraduate students, University advancement, and the many dimensions of campus life position the University more advantageously for the challenges to come.

Planning and Advisory Committees

The University's commitment to individual recognition and development has driven changes in planning and decision-making processes. Besides efforts to support students, faculty, and staff through improved services and a more favorable campus climate, the University's
inclusion of campus representatives in planning and decision making is key to the institution’s growth, health, and vitality. (See Chapter 4.)

As acknowledged in the introduction to the University’s strategic plan, “evaluation and change are vital to maintaining high quality in an era that holds both great promise and uncertainty.” Accordingly, under the guidance of the University-wide Strategic Planning and Budget Advisory Committee (SPBAC), the University of Arizona is engaged in a long-range strategic-planning process that has evolved over the past decade to guide the institution’s progress with respect to its vision.

Representation, participation, and data-driven decision making have grown over the last decade. All colleges now have advisory councils, which include student, staff, faculty, and community representation. Advisory groups such as the Staff Advisory Council, Appointed Personnel Organization, Commission on the Status of Women, Diversity Action Council, and University Advancement Team all help ensure the improvement and relevance of University programs.

Strategic planning at the University is broad enough to encompass the diversity of the campus community. At the same time, it provides important elements of structure. As a result, the University has been able to achieve progress on all aspects of its mission and develop as a student-centered research university.

**Assessment and Accountability**

Evaluation and assessment are fundamental processes in determining progress toward goals. For the University, assessment is a natural part of the planning environment, of human-resource programs, and of resource decisions.

Assessment is accomplished in a variety of ways. Student assessment activities and outcomes are presented throughout Chapter 5. The strategic-planning process and reporting mechanisms provide for identification of institutional and departmental goals and measurement of progress toward those goals, as described in chapters 3, 6, 7, and 11. Performance goals and measures are included in the University of Arizona Strategic Plan, the Master List of Programs, the ABOR Report Card, the University Consolidated Accountability Report (UCAR), and the Undergraduate Education Outcome Measures. In addition, more than 80 academic programs are subject to review and evaluation by 26 specialized accrediting bodies (9). Comprehensive academic program reviews of each department are completed on a seven-year cycle to ensure regular structured evaluations for use by the academic units, the University administration, and the Arizona Board of Regents (see chapters 5 and 8).

*Comprehensive academic program reviews of each department are completed on a seven-year cycle.*

Assessment requires timely and accurate data. The Office of Decision and Planning Support (DAPS) maintains a vast data warehouse of information that is summarized and published annually in the *University of Arizona Fact Book* (9). The information comes principally from administrative databases such as the Student Information System (SIS), the Financial Records System (FRS), and the Personal Services Operating System (PSOS). Online access to the data warehouse is available to all departments and data are used for comparative purposes in decision making and analysis.

The University also requires annual assessments for all employees. For faculty and continuing-eligible academic appointees, a peer-review process at the department, college, and University levels is a prerequisite for promotion, tenure, and continuing appointment. The post-tenure review process, instituted in 1998 to annually evaluate tenured faculty based on their teaching, research/creative activity, and service accomplishments, is described in Chapter 5. Employees who receive an overall performance rating of satisfactory or better may be eligible for rewards and/or merit increases available for that review period.
Analysis and assessment are equally important in support services of the University. The institution undergoes periodic evaluation by financial rating organizations, maintaining an A1 bond rating with Moody’s Investors Service and an AAA rating with Standard and Poor’s Ratings Services. These assessments directly affect the University’s ability to finance, build, and plan new facilities. Finally, a number of other routine measures ensure that space is effectively assigned, classrooms are appropriately scheduled, and facilities are maintained in the condition necessary to provide long-term support for programs.

Institutional Issues and Challenges

The University has developed great agility during the past decade. External and internal change has required new organizational structures, revised procedures, and comprehensive planning. The University must be flexible enough to accommodate Arizona’s growth and resulting enrollment increases and to face other challenges and opportunities in the future.

The University is well positioned to meet these challenges. Its solid human, financial, and physical resource base, aided by strong public support, will enable it to fulfill its purposes and strengthen its educational effectiveness well into the future. These attributes, along with the institution’s leadership, its advisory structure, and its procedures for informed decision making will help the University to deal with new issues as they arise.

The most important challenges to continued effectiveness are listed below.

- **Address the issue of enrollment management at both the undergraduate and graduate levels, and the balance between quality of education and quantity of students in the context of a student-centered research university.**

  The UA Enrollment Management Committee has been meeting for more than two years to plan for projected enrollment increases. The committee’s work includes communication with the other schools in the Arizona university system and with the Arizona Board of Regents staff. During 1999, recommendations have included revising the self-imposed UA enrollment cap of 35,000, examining the ABOR policy limiting nonresident enrollment to 25% of the total, and considering several statewide options for accommodating increased enrollments. In addition, enrollment trends at the college and department level present special challenges to provide student access to academic programs. All enrollment-management alternatives must be carefully studied to determine their likely effects at both the undergraduate and graduate levels. The balance between quality of education and quantity of students in the educational and campus life arenas is an essential consideration.

- **Ensure that planning and decision-making processes remain flexible enough to respond to unanticipated changes and opportunities.**

  Participation of faculty, staff, students, and other stakeholders in planning and decision making has increased considerably during the past decade largely because of new shared-governance guidelines and the restructuring of SPBAC. In recent years, the University, with input from broadly representative advisory groups, has demonstrated its ability to deal well with a number of unanticipated issues and opportunities, and it must remain capable of such responsiveness in the future.
- Ensure that informed planning and budgeting processes are used to determine priorities, direct resources, and provide accountability.

The role of SPBAC in the budget advisory process provides a direct link between strategic planning and resource needs and allocations. As long as University-wide and college-level advisory councils remain broadly representative, thoroughly informed, and able to give direct advice, their contributions to planning and decision making should continue to be productive.

- Continue efforts to inform and strengthen public support.

The University depends on informed and supportive citizens, through their elected representatives in the Arizona legislature, to provide needed resources for higher education. For Arizonans to support greater funding for the UA, they must be well acquainted with the University and its contributions to economic growth, education, and many other aspects of the well being of the state's citizens. Therefore, the University must develop more effective ways to communicate its mission, aspirations, and accomplishments to all citizens of the state.
Chapter 10

Student Centered Research University
CHAPTER 10: STUDENT-CENTERED RESEARCH UNIVERSITY

Introduction

The University of Arizona is engaged in an open discussion, in many settings, about what it means to be a student-centered research university, and about its aspiration to become a preeminent student-centered research university. The University has changed significantly since the 1990 NCA accreditation. It places greater emphasis on considering the University from the student perspective and on access by all students, especially undergraduates, to the full learning environment of this major research University.

To make fundamental changes in the way the University functions, the faculty, staff, and administration must continually analyze whether student learning and success are enhanced by the University’s organizational structure, business practices, teaching methods, curriculum, procedures for hiring and promoting faculty, and student support services. Such analysis has already produced many improvements, with many more to come, in students’ educational experiences and involvement in the UA’s rich research environment.

Development as a student-centered research university has paralleled the University’s achievements as a prominent research university, ranked by the National Science Foundation (NSF) 13th among U.S. public universities and in the top 20 of all U.S. universities. The UA is committed to creating knowledge, applying this knowledge to the solution of societal problems and needs, and improving the quality of life for all those who attend the University and become lifelong learners. Because it values learning as its highest priority, the University strives to foster student learning that is enhanced by research, scholarly, and creative activities.

This chapter provides a brief history of the University’s progress during the 1990s as a student-centered research university; includes a draft description (still under discussion) of what it means to be a student-centered research university; presents some of the University’s major accomplishments and examples of recognition it has earned; and concludes with a statement of the institution’s aspiration to become a preeminent student-centered research university.

Background of the UA as a Student-Centered Research University

The Task Force on Undergraduate Education: 1991-92

At the University of Arizona, the concept of a student-centered research university can be traced to the Task Force on Undergraduate Education, which was appointed by President Pacheco in 1991 and which issued its report in May 1992 (23). In a memo accompanying the report, President Pacheco wrote, “You will find that the report calls for truly fundamental changes in the way we approach and provide undergraduate education. The Task Force rightly speaks of changing the entire campus culture in ways that affect faculty members, administrators and resources quite as much as they would affect students (23).” Starting in the 1992-93 academic year, the work of implementing many of the recommendations began. (See Chapter 5 for information on the Task Force’s recommendations.)

1995 Conference and Position Paper

A major contribution to the discussion of the student-centered research university came in January 1995 when the University of Arizona sponsored a conference titled “Transforming the University: New Realities and Strategies” (30). This conference included a presentation by Ron Cavanagh, vice president for undergraduate studies at Syracuse University, who reported that Syracuse was in the process of a major restructuring based on a student-centered research paradigm. According to the conference summary, major efforts at Syracuse included considerable new funding to support innovative teaching and professional development of
faculty. A subtle but important benefit of the campus discussion and debate at Syracuse was a greater sense of cooperation and collegiality among all staff members.

In April 1995, Provost Sypherd distributed a position paper, "Toward a Student-Centered Research University: Phase I Report", to a campuswide audience (29). This was the first reference to the student-centered research university as both a vision and a commitment of the University. The paper begins, "At the University of Arizona, faculty, students, administrators, and staff have embarked on a project to transform the University into a 'student-centered research university'" and includes the following points:

- The transformation of the University into a student-centered research institution involves far more than curricular change. It involves fundamental rethinking of faculty rewards, of faculty development for teaching, of the advising role of faculty and others, of the responsibilities of students, of the physical environment for teaching, and of the provision for technological teaching assistance.

- There is a tension that must be recognized in the careers of faculty, between the desire to meet requirements for disciplinary/departmental recognition for scholarship on the one hand (tied as it is to the external, discipline-based market) and the desire to contribute maximally to a high-quality undergraduate program.

- We will know that we have made progress toward student-centered research university when it can be said accurately that our most distinguished faculty view undergraduate teaching as a privilege, when we honor our most accomplished teachers as we honor our most accomplished researchers, when we no longer contrast our "teaching loads" with our "research opportunities," and when our obligation to graduate well-educated women and men is perceived to be a responsibility of the entire faculty.

Recommendations in the provost's April 1995 position paper included:

- Creation of a new general education program, one that is for the first time University-wide, based on a broad, interdisciplinary approach that emphasizes both rich content and such skills as critical thinking and communication, especially written and oral expression.

- Creation of a new University College under the vice president for undergraduate education, with a new University-wide general education committee to oversee the development of the curriculum for the new general education program.

- Expansion of faculty development opportunities including faculty summer stipends for curriculum development in the new general education program and a commitment to instructional development in general though a variety of incentives.

- Revision of the guidelines for advising and mentoring for all students, including transfer students.

Recent Publications Relating to the Student-Centered Research University Concept

In the last few years, several University publications have focused on the student-centered research university ideal. These include the University Strategic Plan, the April 1998 report and "environmental scan" prepared by the Strategic Planning and Budget Advisory Committee, and various documents written by President Likins.
University Strategic Plan: The most recent strategic plan for the University, *Transformation Beyond the Year 2000 – 1999 Update*, contains vision and goal statements that refer to the student-centered research university (25).

- Vision: “To be a preeminent student-centered research university.”
- Goal A. “To enhance educational activities and outcomes at the undergraduate, graduate, and professional levels in a manner consistent with a student-centered research university.”

**Strategic Planning and Budget Advisory Committee Report:** In April 1998, the Strategic Planning and Budget Advisory Committee (SPBAC) issued a report titled *The University of Arizona: 2000 and Beyond* that describes the results of a comprehensive “environmental scan” (26). The report affirms that “a necessary condition for a student-centered research university is a strong research program, where discoveries are ubiquitous. The University of Arizona fulfills this requirement and can provide students with an education in which they are active participants in the process of discovery.” The study concludes that a successful student-centered research university must fulfill several requirements:

- To provide students with access to faculty who deeply care about the education and the well being of undergraduate and graduate students, while being leaders in their research fields.
- To educate students who are active participants in their learning and discovery process.
- To develop clear and consistent guidelines used to recruit and reward students, faculty, staff, academic professionals, and administrators within a student-centered research university, its mission, and goals.

**Publications by President Likins:** Shortly after his arrival at the University of Arizona in October 1997, President Peter Likins engaged the campus community in dialogue about his preparation of foundation and operating prioritization principles (5, 22). (See Chapter 2 for a list of these principles.) The first of the president’s operating principles for prioritization is, “The learning experiences that deserve the highest priority are those that best prepare students for a lifetime of learning that will enable them to assume leadership roles in communities and to lead productive and fulfilling lives” (8). Such a principle is clearly student centered.

**Description of the UA as a Student-Centered Research University**

Although the phrase *student-centered research university* has been used in association with the University of Arizona since 1995, the phrase may not be widely understood. The words convey the University’s intent, and many student learning activities exemplify the integration of teaching and research. This self-study report has demonstrated the many ways in which the University of Arizona is a student-centered research university. Still there are some who do not understand the phrase.

Who should define *student-centered research university*? Should the definition be abstract or descriptive? Any single definition will be limiting, just as any brief catch phrase or slogan for an institution as large and complex as the University of Arizona will be confining. There are advantages, however, to identifying the University with a phrase that is not precisely defined. It encourages use by discussion, debate, and even disagreement about its meaning. Perhaps most important, it places students at the center of our thinking, our actions, and our conversations at the University.

During the 1998-99 academic year, the SPBAC members engaged in discussions of what it means for the UA to be a student-centered research university. Professor Jerrold Hogle, Chair of the Faculty and a member of SPBAC, drafted a document on this topic that served as a basis for the SPBAC discussions. Rather than defining the phrase succinctly, the committee focused
on the characteristics that identify the UA as a student-centered research university. The April 21, 1999, draft version of this document, presented below, is part of the continuing dialogue by SPBAC and the larger University community.

What It Means for the UA to Be a Student-Centered Research University

DRAFT, April 21, 1999

The University of Arizona is determined to be a distinguished student-centered Research I university. Research and creative activity are vitally important to us; we can claim the extraordinary expertise and resources we offer to all our audiences only by doing the most cutting-edge and professional work we can in the various fields where our base of support makes that possible. At the same time, the totality of the work we do as a whole institution is primarily for the benefit of the students who come here to learn from us, even as we also do it for our disciplines, our state, our nation, and the world. Here the administration and the faculty as a whole, as well as all relevant support services, are committed to providing all kinds of students with the finest and most supportive education we can. Moreover, we work to do so in an active and deeply engaged collaboration with students so that they and we can join in processes of discovery that can produce lifelong learners and contributors richly enabled to improve the world in which we all live. To these ends, the University of Arizona will:

- foster a climate that welcomes students to an invigorating, as well as challenging, enterprise of discovery in which the focus is on active student learning in and out of the classroom (including engagement with the community) within an atmosphere of mutual respect, cordiality, ethical treatment, and the taking of appropriate responsibility by all parties;

- design and conduct its curricula at all levels toward what students need to learn from them and the competencies we want all students to have for lifelong learning after they leave the University;

- place students, once they attain some basic proficiencies, in consistent contact with faculty who care deeply about the education and well-being of both undergraduate and graduate students while also being leaders in their fields;

- involve students in faculty-driven and student-initiated research and creative activity, so that they can be active collaborators and contributors in the creation, as well as the transmission, of knowledge;

- provide all admitted students with timely and ready access to the counseling, courses, and progress reports they need to proceed steadily toward their learning goals (including, but not limited to, the degrees they seek);

- make certain all students have both the advising and mentoring they need, with the faculty having ultimate responsibility for both, aided by effective staff and technological support, in a manner that enables academic progress and opens avenues to post graduate possibilities with potentials for lifelong learning in them;

- develop a system of incentives, consequences, and support for faculty that truly rewards and enables devotion to students and effective teaching, right alongside achievement in research and creative endeavor, with especially high rewards for those who do all of these well in a way that combines them to promote student learning;

- ensure a high-quality support structure of friendly office staff, accessible technology, clean and working classrooms and laboratories, and safe and supportive residence halls, all focused on creating a campus life which fosters continuous learning, celebrates diversity, and promotes a sense of community in which each person feels valued and respected; and

- maintain a program of extensive and focused assessment that makes sure all these aims are really being pursued and accomplished.
Accomplishments of the UA as a Student-Centered Research University

The recommendations made in 1992 by the Task Force on Undergraduate Education and in 1995 by Provost Sypherd in his position paper, Toward a Student-Centered Research University, formed the basis for fundamental improvements during the past seven years in education for all students, particularly undergraduates. The changes noted below have been supported by reorganization and reallocation of the University's human, physical, and financial resources. (See Chapter 4.) Through a more united focus on student learning, the entire campus culture has changed (as President Pacheco predicted in 1992) in ways that affect faculty members, administrators, and resources as much as they affect students.

Significant Actions in Support of a Student-Centered Research University

The University's commitment to becoming a preeminent student-centered research university is exemplified by a number of actions taken during the past seven years:

- Creation in 1994 of a vice provost for undergraduate education and expansion of this position to vice president for undergraduate education in 1996.
- Funding for the classroom renovation project ($10.8 million from 1995-1999).
- Establishment of the University College in 1996 to administer the general education program and to focus attention on undecided and preprofessional students during their first two years of study by helping them navigate the University system and find appropriate majors.
- Complete revision of the general education program, which is now University wide, inquiry based, interdisciplinary, and writing intensive; approved by the Faculty Senate in spring 1997 and implemented in fall 1998.
- Development of online advising tools such as On Course, Academic Program Requirements Reports (APRRs), and Student Academic Progress Reports (SAPRs).
- Initiation of First Year Colloquia, small seminars taught by senior faculty, to encourage active student involvement in disciplines and topics of interest to them.
- Creation of the Freshman Year Center, with special support for undecided students.
- Significant emphasis on faculty development, including a major state-funded decision package of nearly $1 million annually for a new-technologies partnership and the new Faculty Center for Instructional Innovation (9,254 net assignable square feet).
- Post-tenure review, instituted in 1998, to annually assess the quality of faculty instruction, among other faculty accomplishments.
- Initiation of the undergraduate preceptorship program to encourage and support involvement by undergraduates in instruction; made possible with funding from the state, the Fund for the Improvement of Postsecondary Education (FIPSE), and the W.K. Kellogg Foundation.
- Major efforts to support assessment of student outcomes for both major programs and the general education program.
• Construction of the state-of-the-art Integrated Learning Center (ILC), with 89,944 gross square feet dedicated to undergraduate education, especially general education at the lower division.

Examples of, and Recognition for, Student-Centered Research Activities

During the past decade, faculty have created numerous learning experiences in which students are active participants in the process of discovery. Many faculty have made concerted efforts to link their research interests, activities, and findings with their instruction. In addition to the diverse learning experiences described in Chapter 5, opportunities are available for students to learn by participating in formal and informal research activities. Some research experiences give students a taste of the research process as they participate in course-based investigations and problem-solving exercises. Other opportunities allow students to work under the supervision of faculty members on research projects that are part of funded grants and may result in publications in professional journals. Examples of these research activities are described in Chapters 5 and 6. Selected research opportunities for undergraduate students are listed below and on the Self-Study Web page at http://www.library.arizona.edu/nca/scru.html (7).

• Undergraduate Biology Research Program – In 1996, this program received a Recognition Award for the Integration of Research and Education (RAIRE) from the National Science Foundation, as described in Chapter 6.

• Student Biology Research Projects – an online showcase for academic projects created by UA undergraduate students.

• The URGE – Undergraduate Online Science Journal – promotes undergraduate science research at the University of Arizona.

• UA/NASA Space Grant – an undergraduate research internship program.

• The Math Center – offers undergraduate research opportunities.

• Department of Aerospace and Mechanical Engineering – undergraduate student projects.

• Social and Behavioral Sciences Research Institute – undergraduate research initiative grants.

• Honors College – undergraduate research grants.

Achievements as a Student-Centered Research University

For the past three years, the W.K. Kellogg Foundation has supported a series of annual department head retreats. The last two, in August 1998 and 1999, have focused on the concept of the University of Arizona as a student-centered research university. The 1999 retreat began with a presentation describing results of a survey of department heads, conducted to identify activities in each academic unit that exemplify a student-centered research university. Many activities were mentioned, and the categories of those named most frequently are listed below.

• Student participation in research: students partnering with faculty, capstone experiences, research showcase presentations

• Internships: comprehensive programs, ad hoc programs, community-service programs

• Advising: faculty-centered models, faculty/professional staff models, roles for peers and graduates
• Professional development and career services: course-based models, event-based models, direct placement assistance

• Classroom environment: innovations with technology, interactive learning methods, research-based lecturing

Professor Adele de la Torre, head of Mexican American Studies and Research, made an important point at the 1999 retreat while reporting for an "out-of-the-box thinkers" group. She posed the question, "Is a student-centered research university a goal or a description for the University of Arizona?" She and her group answered this question firmly on the side of description, in the sense that the University of Arizona's activities describe a student-centered research university. This chapter supports her conclusion.

The Student-Centered Research University Theme within the NCA Self-Study Process

The University has been actively engaged for 18 months in a self-study process in preparation for its decennial NCA review. Members of the Steering Committee and the eight working teams that participated generally agreed that, in fact, the University of Arizona is a student-centered research university. Excerpts from this self study illustrate the way in which the student-centered research university concept characterizes the University.

• Criterion 1 - Institutional Mission and Purposes (Working Team 1): "The University's vision statement defines the institution's prevailing challenge: to be a preeminent student-centered research university." (See Chapter 3.)

• Criterion 2 – Human, Financial, and Physical Resources (Working Team 2): "The University of Arizona recognizes that people — faculty, administrators, and support personnel — are key to the institution's ability to serve its students." (See Chapter 4.)

• Criterion 3 – Instruction (Working Team 3): "In its evolution as a preeminent student-centered research university, the University fosters a climate of discovery and cooperation. Every effort is made to welcome students to an invigorating, challenging educational environment in which the focus is on student learning and where the atmosphere is one of mutual respect, support, and ethical treatment." (See Chapter 5.)

• Criterion 3 – Research and Scholarly Activity (Working Team 4): "Developing research and capstone experiences for undergraduates is integral to the University of Arizona's vision of a student-centered research university," and, "Graduate Interdisciplinary Programs (IDPs) at the University of Arizona are among the strongest in the nation and have become, in fact, a hallmark of the University." (See Chapter 6.)

• Criterion 3 – Outreach (Working Team 5): "As Arizona's land-grant university, the UA makes extraordinary efforts to share knowledge generated through research and scholarly activity with people outside the University," and, "In the broadest sense, the University's external constituents are 'students' who benefit from its commitment to become a preeminent student-centered research university." (See Chapter 7.)

• Criterion 3 – Assessment (Working Team 6): "Ensuring that student assessment has an appropriate and useful impact on learning and teaching is essential to the University's assessment program," and, "The campus community has come to appreciate the value of assessment to program change, student learning, and the University's performance." (See Chapter 8.)
• Criterion 4 – Continued Effectiveness (Working Team 7): “As the planning and resource allocation processes have come to include greater participation of faculty, staff, students, and other stakeholders, the University itself has changed,” and, “From the restructuring process has emerged a vision of the UA as a preeminent student-centered research university, a guiding principle in decision making today.” (See Chapter 9.)

• Criterion 5 – Institutional Integrity (Working Team 8): “A student-centered research university, a supportive campus climate, and the well-being of every member of the campus community all depend on the University’s commitment to, and exercise of, the highest principles.” (See Chapter 11.)

These excerpts from the report illustrate that the student-centered research university theme permeates this document, as it permeates this University.

Student-Centered Research University Issues

While the University has made notable progress during the past decade toward preeminence as a student-centered research university, a number of issues remain.

One issue concerns reaching consensus on what student-centered research university means on a campuswide basis. For example, campus discussion continues regarding the use of learner rather than student in the phrase. Some argue that learner is a more appropriate term because it includes students, teachers, and others who benefit from the University. Furthermore, because outreach and service are important components in the mission of the University, some feel that student-centered research university is incomplete, preferring student-centered research university with a commitment to public service. Such discussion is useful if it helps the University community reach consensus on how to define the phrase and move forward toward becoming a preeminent student-centered research university.

Another issue is the relationship between student-centered and research activities. All institutions of higher education strive to be student centered but few earn the Research 1 classification. The focus of the University of Arizona’s efforts is to integrate its student-centered and research activities. President Likins, at the August 1999 department head’s retreat, said, “We cannot set aside the intellectual inquiry that advances human understanding to go teach. We are a research institution. We must integrate the research, teaching, and service missions of the University. This must not be a zero-sum game. We must find effective, creative ways to combine these efforts in a way that makes the whole greater than the sum of the parts.”

A third issue has to do with the very diverse student body at the University of Arizona in a state whose constitution affirms that access to the University should be open and as nearly free as possible. Most believe that the University is an excellent student-centered research university for the motivated, well-prepared student. “But we have a very heterogeneous student body, especially at the undergraduate level. It is a challenge for us to help all students reach full potential” (President Likins, at the department head’s retreat, August 1999). This is one of the major challenges facing the University of Arizona in its effort to be a student-centered research university for all students.

The primary issue, however, is to marshal human, financial, and physical resources at the University to strategically pursue our vision “to be a preeminent student-centered research university.” Activities that must be continued include assessment of student learning outcomes, both at the departmental level for majors and at the university level for general education; improvement of student advising and mentoring; expansion of faculty development and recognition for contributions in education; and renovation and construction projects such as the Integrated Learning Center. The University must build upon these activities to create an agenda that fosters student learning enhanced by research, scholarly, and creative activities.
This chapter has described highlights of the ongoing transformation of the University of Arizona in the last decade as a student-centered research university with aspirations of preeminence among such institutions. The transformation has involved the entire University community – students, faculty, staff, and administrators. For example, students now have an interdisciplinary, inquiry-based, writing-intensive general education program that for the first time is university wide; opportunities to enroll in First Year Colloquia taught by ranked faculty; and greater participation in research and creative activity. The faculty developed the content of the new general education curriculum, and faculty members have taken advantage of the University’s professional-development opportunities to improve teaching. The Faculty Senate has adopted a post-tenure-review process that, along with other promotion and tenure reforms, emphasizes integration of scholarly work and teaching. The University has affirmed the central role of advising and is considering models to improve the delivery of advising services. Staff members play important and acknowledged roles in advising students and provide other valued student services. The administration has restructured numerous responsibilities, notably by the appointment of a vice president for undergraduate education and creation of the University College serving undecided and preprofessional students and providing support for the new general education program. There is much to be proud of in the University’s accomplishments as a student-centered research university.

The challenge for the University of Arizona is to become a preeminent student-centered research university. This objective has important implications. It means that the University cannot rest on the accomplishments of the past decade but must continually seek ways to improve the education of all students and, in particular, expand access for undergraduates to the intellectual wealth of faculty research and creative activities, both in and out of the classroom. It must meet this challenge in an environment in which significant funding increases are unlikely and public demands for greater accountability are growing, and in a way that preserves and even strengthens the faculty’s capacity to create and organize knowledge for the benefit of people everywhere. The University must continue to learn from other institutions while progressing toward national leadership, to the ultimate advantage of UA students. It must focus every institutional process, from strategic planning to conducting this self-study, on improving the student educational experience. The University looks forward to the NCA reaccreditation process as an opportunity to obtain constructive feedback on its accomplishments to date and its progress toward preeminence as a student-centered research university.