



THE MASTER PLAN FOR FLORIDA POSTSECONDARY EDUCATION



Report and Recommendations of the
Postsecondary Education Planning Commission

Florida Postsecondary Education Planning Commission

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St. Petersburg

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Gainesville

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Tallahassee

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John Robert Middlemas
Panama City

James J. Gardener
Fort Lauderdale

Rayma C. Page
Fort Myers

Samuel B. Gould
Sarasota

William C. Schwartz
Orlando

FORMER MEMBERS WHO SERVED DURING PREPARATION OF THE MASTER PLAN

Rene H. Gracida
Tallahassee

Frank P. Scruggs, II
Miami

Philip D. Lewis
West Palm Beach

Melinda Webster
Fort Myers

Margaret Roach
Fort Lauderdale



STATE BOARD OF EDUCATION
POSTSECONDARY EDUCATION PLANNING COMMISSION
KNOTT BUILDING
TALLAHASSEE, FLORIDA 32301

November 18, 1982

The Honorable Bob Graham, Chairman
Governor of Florida

The Honorable Ralph D. Turlington, Secretary
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The Honorable Doyle E. Connor
Commissioner of Agriculture

The Honorable George Firestone
Secretary of State

The Honorable Bill Gunter
Treasurer and Insurance Commissioner

The Honorable Jim Smith
Attorney General

The Honorable Gerald Lewis
Comptroller

As Members of the State Board of Education

Gentlemen:

On behalf of the Postsecondary Education Planning Commission, I am pleased to transmit to you the first Master Plan for Florida Postsecondary Education.

In keeping with the Commission's enabling legislation (s.240.147, Florida Statutes), the Plan is based upon the anticipated needs of Florida's citizens for postsecondary education through the year 2000, and addresses the issues mandated in the legislation, specifically:

Consideration of the promotion of quality, fundamental education goals, programmatic access, needs for remedial education, regional and state economic development, demographic patterns, student demand for programs, needs of particular sub-groups of the population, implementation of educational techniques and technology, the requirements of the labor market, (and) the capacity of existing programs, in both public and independent institutions, to respond to identified needs.

Florida's rapidly changing demographic and economic patterns will confront state policymakers with difficult decisions on the best use of the state's postsecondary education resources to meet its citizens' changing needs.

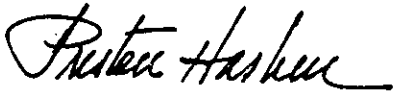
Members of the State Board of Education
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While this Plan, of course, does not provide all the answers, we are optimistic that it can guide the State Board, the Legislature, and postsecondary education institutions to meet the challenges of the coming decades.

The preparation of this Plan has been an exciting challenge to the Commission, and I hope that it will be a source of satisfaction in the years ahead to all of those who participated in its development. I wish to particularly acknowledge the dedicated efforts of all members of the Commission, both past and present; the support received from the State Board of Education, and especially that of the Governor's office and the Department of Education; the cooperation of other educational sections, and the work of our excellent staff. Without these resources, the timely completion of this effort would not have been possible.

We remain available to provide any additional information and assistance which you or other agencies may require, and to provide appropriate follow-up, monitoring and implementation of this first Master Plan.

Respectfully submitted,



Preston H. Haskell
Chairman

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FOR
FLORIDA POSTSECONDARY
EDUCATION**

**Report and Recommendations
of the
Postsecondary Education Planning Commission**

November 18, 1982

**Knott Building
Tallahassee, Florida 32301**

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INTRODUCTION

The Florida Postsecondary Education Planning Commission's enabling legislation (Section 240.147, Florida Statutes) directs it to prepare and submit to the State Board of Education a master plan for postsecondary education. The statutory language requires that the plan:

include consideration of the promotion of quality, fundamental education goals, programmatic access, needs for remedial education, regional and state economic development, demographic patterns, student demand for programs, needs of particular subgroups of the population, implementation of educational techniques and technology, and the requirements of the labor market. The capacity of existing programs, in both public and independent institutions, to respond to identified needs should be evaluated and a plan developed to respond efficiently to unmet needs.

We are at a critical point in Florida postsecondary education. By 1990 Florida will be the fourth largest state in the nation. Its goals for economic, social and cultural advancement are impressive, as they should be. They are linked to the development of an outstanding educational system. In recent years Florida has taken significant strides toward these goals. The quality of postsecondary education in Florida has progressed to the point where movement into the upper levels of educational achievement is now within reach. The additional steps required to achieve higher quality, however, are more difficult and call for many specific actions. Basic to these is a plan that will indicate priorities for growth and change, one that will chart the intention to move Florida's system of postsecondary education to a higher plateau. Guiding the Commission's actions has been the assumption that the improvement of quality should take precedence over the expansion of postsecondary education.

The Commission is aware of the significant advances already made by both state and institutional leaders to improve postsecondary education. It is equally aware of and impressed by the resolve to do more. In emphasizing the need for even more, we are concerned lest this be interpreted as a derogation of the present status. Such is clearly not our intention. Postsecondary education in Florida has many instances of excellence. Nevertheless, this Plan takes as its premise that further enhancement is needed and concentrates on improvement of what already exists.

Needs- Based to the Year 2000

The Plan is based throughout on the needs for postsecondary education. Only after identifying these needs were institutional and program actions recommended to meet them effectively. Because changes in postsecondary education require substantial time to complete, the Plan extends its evaluations of needs and recommendations for action to the year 2000.

Organiza- tion and Manage- ment

The recommendations concentrate upon the educational actions required to improve how needs are met. The recommendations on organization relate to improvements within the existing structure of postsecondary education. The statements about effective organization,

**Master Plan
Develop-
ment**

management, and coordination call upon existing structures to carry out these functions. They reflect the belief that personal leadership and commitment are frequently able to overcome structural flaws. If, after clarifying the critical functions which must be carried out by both state and institutional structures, it is found that current organizational arrangements need to be modified if they are to carry out these responsibilities effectively, changes will be recommended in future supplements to the Plan.

The Master Plan should be regarded as the Commission's initial major statement, the result of almost two years of research and deliberation. It results from over twenty monthly meetings and numerous committee sessions, during which scores of institutional and state officials, academic administrators, specialists from out of state, faculty and students appeared and testified. Interim position papers on a variety of subjects, broad and specific, were progressively prepared and have been made available to the public. The Commission has paid close attention to reactions to and criticisms of these papers. The commissioners debated long and hard, with frank and friendly differences of opinion and judgment.

The Plan that has emerged is the first of a series of statements the Commission will offer during the months and years ahead, each of which will usually deal with a single subject. Supplementary statements on the postsecondary education needs of members of minority groups and on student financial aid will be published soon. PEPC has already been directed by the Legislature to examine several specific issues and to report on these in the months to come.

This first Plan suggests many guidelines, directions and priorities for strengthening postsecondary education. Recognizing that we move into the future through actual implementing decisions, rather than plans, the Commission offers these guidelines to be used by sector and institutional boards, the State Board of Education and the Legislature as they make program and budget decisions.

BASIC ASSUMPTIONS AND CONCEPTS

Goals

The goals of postsecondary education remain constant, although it is true that the characteristics and patterns of education must change because the world and all within it are changing. The basic task remains what it has always been: the development of each person's intellect and character, and the striving toward wisdom by the advancement and extension of knowledge.

Our postsecondary educational institutions should above all else be centers for learning, dedicated to the growth of the individual. This means trying to develop a person who can, as the result of education, find a stable economic life technically or professionally; who can discover richer and deeper patterns of living through cultural awareness and appreciation; who can, at the least, understand the need for, and in some instances, participate in the expansion of knowledge and the search for truth; who is constantly aware of the swiftness of change in modern civilization and is receptive to such change; who is sensitive to the responsibilities of freedom together with its rights and insists upon these obligations and opportunities for others; and finally, who is motivated to help solve the major social problems of one's age at whatever level of usefulness possible.

Student and State Needs

The Commission has approached the creation of the Master Plan with certain assumptions and concepts deemed central to considerations of the future. A fundamental prerequisite to making recommendations of any sort is the identification of current and future student and state needs. Such identification was undertaken in considerable depth.

Access

A major assumption is that postsecondary education should be available to all who can benefit from it. Most of Florida's efforts in postsecondary education over the past twenty years have focused on widening geographical access, first to lower division programs, then to baccalaureate education and now to beginning graduate education for qualified students. After examining current avenues of access to different forms and levels of education beyond the high school, we concluded that these are now within reach of most Floridians, although there remain some population groups for which special efforts will have to be made if access is to result in effective education.

Emphasis on Quality

The success of the State in providing access to postsecondary education is acknowledged nationally. These efforts should be continued and maintained. Florida has reached a point, however, that a focus on improving the quality of postsecondary education institutions and programs should be the highest priority. Thus, most of the recommendations in the Plan point to ways to make existing services better able to meet student and state needs effectively.

Linkages

This concept of linkages is a dominant theme of the Master Plan. It is woven into many of the Commission's recommendations, appears in many parts and under many guises, and becomes a point of emphasis again and again. One key to better student learning is found in closer ties between and among all the different sectors of the educational establishment—between K-12 and postsecondary education in academic, vocational, proprietary, adult and remedial programs, and between community colleges, state and independent universities and colleges in undergraduate, graduate, and professional education. The

Education as a Continuum

sequence and continuity of a student's education are enhanced by the creation of a continuum based upon communication, smooth transition, cooperation, and a unified philosophy.

**Involvement
of Commu-
nity and
Regional
Resources**

The education process is measurably strengthened by regular and significant involvement of the business, industrial, social and cultural agencies of a community or region. This involvement clarifies needs and helps in planning and evaluation. It also opens doors to the sharing of expertise and physical resources, avoids duplications of effort and equipment, controls costs and promotes a welcoming and supportive attitude on both sides.

**Teaching
and Learn-
ing Central**

Logical structures of authority, better organization, and improved coordination and management can lead to a higher quality of education but only to the extent that their major functions encourage better teaching and learning. The student is at the center of the educational process as a learner; the academic institutions, with their governing boards and faculties, are central to the creation of programs. The responsibility of the State Board of Education and the Legislature is to determine the level of the outcomes they have a right to expect from the teaching-learning process. We assume that they would do this after consultation with the respective postsecondary education sectors, that their expectations would be clearly understood and acted upon, and that appropriate evaluation would follow.

**Educational
Functions
Over Orga-
nizational
Structure**

The Plan focuses on the actions required to strengthen postsecondary education more than on governance or institutional structures. Recommendations on organization and management relate to improvements within the existing structure of postsecondary education. No major structural changes, such as mergers of institutions or significant modifications of state governing or coordinating boards, were considered.

**Distinctive
Institutional
Roles**

The development of distinctive institutional roles is an important theme of the Master Plan. Each segment of postsecondary education and each institution should develop special areas of strength that lead to distinction and contribute to the total spectrum of responsibilities. The Plan suggests guidelines to assist in this process and urges cooperative arrangements where advantageous to students and faculty.

**Priorities
for Action**

The State's goal to improve quality in a context of limited resources requires a plan that identifies the specific nature of needed changes and actions. The plan should establish schedules and responsibilities for implementing and coordinating the pursuit of these priorities. Each form of postsecondary education was examined and the most critical actions were identified to make each stronger. Current practices that are important and effective are affirmed and supported. Support for these continuing efforts is as necessary as launching new initiatives. Programs already in being should have some guarantee that they will be allowed to mature sufficiently to prove their worth.

Whatever structural or managerial changes or new academic programs emerge in the future will do so in the context of limited state resources and competing social and economic priorities. The next two decades, therefore, pose old and new dangers for postsecondary education. Yet they also offer strong hopes. The strongest of these is *to coordinate all the educational resources of the State and bring them to bear upon appropriate access and high quality achieved with affordable investment.*

**Effective
Financing
and
Budgeting**

Finally, the Commission has re-examined the tuition, financing, and budgeting processes now in being. Funding tied principally to the number of full-time students is not sufficiently sensitive to academic progress. Changes are recommended in tuition policy, the budgeting process, and the evaluation of programs.

**Education
as an
Investment**

Considering the financing of postsecondary education in an even broader context, we call attention to the major responsibility placed upon education for making certain that our citizenry at all ages are prepared to cope with an even more complicated and challenging future. World peace, economic stability, continuing search and discovery, individual growth with its accompanying sense of research—these will come to pass only when education poses enlightened and enterprising questions to youth and motivates their continuing curiosity to learn throughout adulthood. Education, viewed in this context, becomes far more than an annual expenditure item of budgeting; it is an all-important *investment* to guarantee a strong, skillful, and humane people. Support for education should be seen as an investment whose principal is repaid many times in the future, not just in terms of increased tax revenues but, more important, in terms of more enlightened citizenship and a better society. Few governmental expenditures can claim the long-term, pervasive effects as those for education, whose results last for lifetimes.

Part I

The Relationship Between State Needs and Postsecondary Education

ANALYSIS OF CURRENT NEEDS

Needs-Based Plan

Early in the development of the Master Plan, the Commission embraced the needs-based approach found in the legislative charge. Instead of looking at the needs of existing public postsecondary education institutions as a starting point, the Commission first identified the needs of the State and then proceeded to explore the ways postsecondary education institutions, public and independent, and other state resources could best respond to the identified needs. The plan directly addresses ways to strengthen postsecondary education in Florida, but always within the context of this needs-based approach.

Focus on Future Needs

The Commission also sought to extend its examination of needs for postsecondary education well into the future, realizing that substantial lead time is required if programs are to be formed which will meet the needs of the 1990s.

The latest demographic, educational, social, and economic information about Florida was collected and analyzed to describe the needs for postsecondary education. Population trends were projected through 1985, 1990, and 2000. Enrollment patterns were analyzed for 1980-1990 for collegiate and vocational education. All information was developed on a statewide basis and in terms of the five reporting regions identified by the Department of Education: the Panhandle, the Crown, East Central, West Central, and South Florida (Figure 1). A detailed presentation and analysis of this planning information is provided in "Postsecondary Education Needs of Florida: Demographic, Enrollment, and Economic Patterns" (PEPC: October 1982).

Population

Current Composition

Florida is now the seventh largest state in the Nation. It had a population of nearly 9.8 million in 1980, an increase of 43% since 1970. In the 1980s, Florida is projected to continue to grow rapidly to 12 million people or more, making it the fourth largest state in the nation.

Florida's population is nearly 84% white and 13.8% black. Nearly nine percent of Florida's citizens are Hispanic. The racial and ethnic composition of the State varies widely by geographic area; nearly 80% of the State's Hispanic residents and more than 36% of the State's black citizens reside in South Florida. More than 60% of all Florida residents live in South and West Central Florida. Less than nine percent of the population reside in the Panhandle, a region containing nearly one quarter of the State's land area. The average age of West Central and South Florida residents is significantly older than residents of the Panhandle and the Crown. In age distribution and nearly all other measures, East Central Florida is the area most typical of the State as a whole.

Compared to other states, Florida has the highest average population age and the greatest percentage of people age 65 and older. In 20 years, the State is projected to have the greatest absolute number of elderly persons of any state. Women are a slight majority of the population and are projected to continue to be so through the year 2000.

Enrollment Patterns

Collegiate Enrollments

The enrollment patterns of collegiate education and vocational education were analyzed. As used in this chapter, collegiate education consists of university parallel and transfer programs (Advanced and Professional—A&P) at 28 public community colleges, and all academic programs at nine state universities and 20 independent colleges and universities eligible in 1980 to participate in the State Tuition Voucher Program. Florida provides public postsecondary vocational education through two delivery systems, public school districts and public community colleges. Detailed enrollment information for students in independent vocational institutions was not available.

During the Fall of 1980, more than 300,000 students were enrolled in collegiate credit courses at Florida public and independent colleges and universities (Table 3). Student characteristics vary considerably by sector and by region.

White students outnumber minority students in each sector of collegiate education and in each region, although in South Florida, more than 40% of the community college students are Hispanic or black. Statewide, black students comprise 12.8% of independent college and university enrollments, 10.3% of community college enrollments, and 9.5% of state university enrollments. Hispanic students are 11.9% of community college, 11.5% of independent, and 5.4% of state university enrollments, primarily due to large Hispanic enrollments in South Florida.

Nearly 50% of total collegiate students are women. Greatest enrollment of female students is in community colleges (54%) and the lowest percentage is in the independent sector (42%).

The percentage of traditional college-aged students is greater in the independent sector than in public institutions. Only 27% of independent sector students are 25 years old or older while nearly 33% of community college (A&P) and 42% of state university students are in this category. Most independent sector students (77%) and state university students (66%) attend on a full-time basis, while only 47% of community college students are full-time. Attendance at the newer state universities in urban centers, however, is mostly part-time. Most state university (88%) and community college (86%) students are Florida residents. In contrast, nearly half of the students enrolled in independent colleges and universities are from outside the State or the nation. These statistics are less meaningful than in many states because under Florida law, a non-resident 18 years of age or older can be classified as a Florida resident after living in the State for one year.

Vocational Education Enrollments

During the period analyzed, more than 320,000 people were enrolled in credit and noncredit vocational courses in Florida (Table 7). Black students are 15.3% of these enrollments, and Hispanic students are 7.6%. Blacks and Hispanics make up a higher percentage of the total in Adult Preparatory programs offered by public school districts than in Adult Supplemental or community college programs. Black and Hispanic enrollments comprise the smallest percentage of vocational enrollments in Adult Supplemental Programs designed to broaden or enhance job skills for persons already employed. Female students are 59% of all vocational enrollments in Florida, and more than 50% of the enrollments in each sector.

The average age of vocational students is significantly higher than that of collegiate education students. Nearly two-thirds of all vocational students are 25 years old or older. Vocational students also are more likely to attend part-time than collegiate students. In community college vocational programs, nearly 75% of all students enroll part-time.

Responsiveness of Postsecondary Education

Educational Attainment

On two measures, average years of school completed, and college completion rates—Florida residents as a group attain near average levels of education. However, Florida has a relatively low number of annual high school graduates per capita of population. Women have slightly lower levels of achievement on both measures than men. Similarly, Hispanics have lower levels of achievement than whites, but much higher levels than do Hispanics nationally. Florida's black citizens attain levels of education on both measures which are the lowest within the State, and which are lower than national averages.

In a 1980 sample survey of households, the Bureau of Economic and Business Research at the University of Florida found the greatest rates of college attendance in the State among the urban residents of East Central, West Central, and South Florida. The residents of the Panhandle and Crown had the lowest rates of college attendance.

High School Graduates

Although Florida has a relatively low number of high school graduates annually, recent graduates are continuing their education at a rate greater than the national average. In the Fall of 1979, 49.3% of national high school graduates enrolled in postsecondary education, while 55% of all Florida high school graduates entered postsecondary education during the same period. In 1980, the percentage of Florida public high school graduates immediately entering postsecondary education increased from 52.5% to 54.2%. The entrance rates of graduates from Central and South Florida were higher than those from the Panhandle and the Crown.

Access

Florida has built an extensive system of public universities, community colleges, and vocational technical centers to provide opportunities for postsecondary education to its citizens. Since this system relies heavily on the two-plus-two concept to provide many of these opportunities, it is not surprising that Florida ranks low on interstate comparisons of public university enrollments as a percentage of population. On similar measures of public community college enrollments and total college and university enrollments Florida ranks much higher. When combined college and university enrollments are considered in relation to the number of high school graduates, Florida ranks 16th among the 50 states. This measure is probably the most accurate reflection of the State's effort to provide access to college and university education.

Florida's efforts to provide geographically accessible opportunities for postsecondary vocational education are excellent. On measures of per capita expenditures of State and local funds for vocational enrollments, and vocational enrollments as a percentage of population, Florida is in the upper quartile of states.

Enrollment of Special Populations: State Equity Needs

The enrollment of blacks as a percentage of total enrollments in the State University System has decreased every year from 1977 to 1981. The decline has occurred in every category: undergraduate enrollments have declined 13%; first professional program enrollments have declined 7%; and graduate enrollments 34%. While the percentage of blacks as a portion of the population has also decreased during this time, the decrease has been considerably smaller than the decrease in enrollment percentages. In fact, the percentage of blacks in the population has decreased less than four percent over the same four years. Hispanic enrollments remain at a low level; however, between 1977 and 1981 there was a small but steady increase. Undergraduate enrollments increased from 3.7% to 6.2%; first professional degree enrollments increased from 3.6% to 4.0%; and graduate education enrollments increased from 2.5% to 3.2% (Table 9).

Enrollment of blacks in Florida's public community colleges has steadily declined since 1976 (the earliest year for which the Division of Community Colleges has data). Blacks have decreased from 13.8% of the total enrollment in 1976 to 10.2% of the enrollment in 1981, a 26% decline. Hispanic enrollments have increased steadily from 7.0% in 1976 to 10.5% in 1981 (Table 10).

The Commission is very concerned about this decrease in black participation in postsecondary education and will study further the possible causes of this alarming trend, including high school preparation and graduation patterns, financial aid policies, and economic conditions.

It is estimated that there were approximately 5000 handicapped students in the state's public colleges and universities in 1980. This represented a slight increase from 1979. The number of people in Florida identified as disabled or handicapped is significant. The older age of the Florida population results in Florida having a disproportionately large number of disabled people. Approximately 150,000 citizens in Florida are eligible for federal social security disability benefits and the state's Division of Public Schools (K-12) has identified 166,000 young people as mentally or physically handicapped. Moreover, these numbers do not include the pre-school population, the elderly over sixty-five years of age, or adults who have never been employed.

The increase in the participation of women in postsecondary education during the last decade has been dramatic. Female enrollment in the State University System has increased more than 80% and in the community colleges more than 150%. In 1979, 48% of the students in the State University System, 57% of the community college students and 53% of the vocational education students were female.

Needs of Minorities and Other Special Populations

Certain groups of people in Florida have unique, identifiable needs related to postsecondary education. As a result of social and economic disadvantages, and inadequate or inappropriate academic preparation and counseling, some of Florida's population groups have special needs for remedial education, financial assistance, and flexible admissions policies and other specialized services. The Master Plan has addressed

the needs of minorities and other disadvantaged groups in various places throughout the study:

- Improved Teacher Education
- Program and Faculty Cooperation
- Disadvantaged Students
- Strengthening Remedial Education
- Minority and Women Faculty
- Adult Education

Culturally-appropriate counseling is essential for all students, especially for students from minority groups and women. Women also often have needs for convenient and inexpensive child care, and for remedial programs in mathematics and science.

Adult students often require flexible schedules and locations, self-directed counseling services and learning programs, and continuing education for professional and personal development. Displaced homemakers often need skill refresher courses, special counseling, and vocational training.

Students whose native language is other than English have special needs for English courses and other programs to help them overcome communication difficulties in vocational and collegiate settings.

Military personnel stationed in Florida need flexible, accessible, and transferable postsecondary education programs. And handicapped students in the state's public colleges and universities experience special needs in terms of housing arrangements, access to course work and extra-curricular activities, assistance in obtaining tutoring, and financial assistance.

The State of Florida has the responsibility to maintain a strong, documented and continuing commitment to provide a quality education to all Florida citizens, regardless of age, sex or race, or national origin, regardless of economic, cultural, physical condition or geographic location provided they have the potential to benefit from such education.

The Commission's concern with identifying and meeting the needs of members of minority groups does not end with the publication of the Master Plan. The Commission is conducting additional study of the postsecondary education needs of minority groups in Florida to include the needs of non-English speakers and persons of diverse national origins, and will publish a supplementary report and recommendations on this topic.

Economic Development Needs

Florida's economy reflects the State's unique geographic character. Traditionally, the economy has been based on agriculture, tourism, and services to retirees.

To encourage the diversification of Florida's economy and to reduce its dependence on tourism and retirees, Governor Graham appointed a series of task forces to encourage the development of a select number of clean, high-technology industries in the State. These task forces cited education as critically important for economic development. Primary needs are for competently trained technical and skilled workers, and for

rapid worker training programs for special technical fields. It is equally important to inform firms contemplating relocation to or expansion within Florida of the State's efforts to provide well-trained personnel. Additional needs are for supplemental training, continuing education, and basic and applied research to develop new techniques and products.

During recent regional master plan seminars, the Florida Board of Regents identified the need to improve the linkages between universities and the business and industrial communities, between basic and applied research, and between the development of new ideas and products and the marketplace.

Timely and complete occupational supply and demand (manpower) information is necessary for effective planning at state and local levels. Mechanisms for predicting demand must be flexible and responsive to change. Continuous attention is needed from the Department of Labor and Employment Security, the Department of Commerce, and the Department of Education to provide these data, and to solicit information regularly from the business and industrial communities.

FLORIDA'S FUTURE NEEDS

A plan for education is inevitably based on some assumptions concerning the future of society's other parts: the economic, social, cultural and political sectors. Perhaps more than any other aspect of society, education has the potential to affect the future of these other parts. Education, by its very definition, leads us into the future. But the different sectors of society are related to each other. To be a leader education must anticipate and address future social, economic and cultural needs.

Population Changes

As Florida grows over the next twenty years, changes will occur in the characteristics of the population and in people's needs for education after high school.

Persons aged 25-34 are becoming an increasingly significant component of postsecondary education. This age group will diminish during the 1990s, although to a lesser degree than the 15-24 age group will have done in the previous decade. Migration is a mitigating factor (Table 2).

Projected Population Changes

The racial composition of Florida's population is projected to change steadily through the end of the century. As a percentage of total State population the black population is projected to decrease to 12.5% by the year 2000, although in numbers it is projected to increase by more than 450,000. In Dade County the Hispanic population will be the dominant population in the near future. Projected growth in that county alone will result in a 25% statewide increase in the Hispanic population by 1985.

Florida's major population growth will be due primarily to the migration of older, white persons to West Central and South Florida. The population of young persons is projected to increase much less rapidly than the population as a whole. The number of traditional college-aged persons, 15-24 year olds, is projected to decrease in Florida through the end of the decade (1990) and then recover by the year 2000 to levels five percent higher than 1980 levels. As a percentage of Florida's population, the 15-24 age group is projected to decline from 16.7% in 1980 to 11.7% in 2000. This will be felt most severely in the Panhandle, followed by the Crown, and will be almost unnoticed in West Central and South Florida.

Regional Patterns

North Florida

North Florida, comprising the Panhandle and the Crown, is projected to grow at a moderate (for Florida) pace from 1980-2000. The thirty-seven counties of North Florida contain 21.8% of the State's population and are projected to account for 15.2% of the State's population growth during the remainder of the century. The two largest counties in North Florida, Escambia and Duval, are projected to grow 18.8% and 10.4% respectively from 1980-2000, the lowest growth rate of the State's large counties. Alachua and Leon Counties, on the other hand, are projected to grow 53.9% and 51.3% respectively during the same period.

Between 1980 and 1990 the number of 15–24 year old persons is projected to decline more than 14% in the Panhandle and 8% in the Crown; in the year 2000, the Panhandle will have nearly 14,000 fewer people in this age group than it had in 1980, and the Crown will have 1,000 fewer (Table 1). Growth in the number of 25–34 year old persons is projected to be significantly less in the Panhandle and Crown than in the rest of the State (Table 2). Although tourist figures in the Panhandle increased 12% in 1981, further expansion may be hampered by inadequate roads and air facilities. The business centers of North Florida, Duval and Escambia Counties, currently are not experiencing significant economic growth. Potential economic growth in North Florida could come from international trade moving from congested South Florida ports and from Central Florida electronics companies looking to North Florida for more workers, as well as from increased tourism.

Central Florida

West Central Florida, extending from Hernando to Lee Counties and including Polk County, will experience a greater percentage growth in population from 1980–2000 than any other region, nearly 56%. East Central Florida, extending from Volusia to St. Lucie Counties and including Orange County, will grow nearly 52% by the year 2000. Central Florida, comprising the two regions, is projected to grow by more than two and a quarter million persons by the end of the century, nearly 47% of Florida's total population growth during the period. Although Dade, Broward, and Palm Beach Counties will achieve the greatest absolute growth in the State, eleven Central Florida counties will gain more than 100,000 persons each by the year 2000; Hillsborough, Pasco, and Pinellas Counties will gain more than 200,000; Orange County will gain nearly that many. East Central Florida will experience a decline of 22% in the number of 15–24 year old persons from 1980 to 1990, while West Central Florida will be the only region in the State actually to increase slightly in the number of these persons during the decade. By 2000, East Central Florida will have recovered to slightly above 1980 levels, and West Central Florida will have experienced an 11% growth in this age group since 1980. Both regions will experience continuous growth in the number of 25–34 year old persons, averaging 40% growth from 1980–2000.

Economic projections for Central Florida are positive as high technology manufacturing and finance join retirement, tourism, and agriculture as the economic pillars of the area. Electronic companies are now established in a crescent from St. Petersburg to Melbourne to Ft. Lauderdale, Tampa is emerging as one of the fastest growing business centers in the country, and the opening of EPCOT should bolster tourism in the Orlando area. Since IBM began the high technology migration to Florida in Boca Raton in 1967 the nature of the economy of a large portion of Central Florida down to Palm Beach and Broward Counties has been transformed. The influx of high technology industry is reordering demographics, as evidenced by the drop in median age in Pinellas County during the 1970s, a time when the median age was rising across the State. These changes have significant implications for postsecondary education as colleges and universities attempt to meet the demand for general educational services as well as the more specific needs for engineers, technologists and technicians.

Southeast Florida

The Southeast Florida region embraces a large and diverse population and many social, cultural and economic segments. For example,

more than 35% of the State's citizens reside in South Florida, and almost 38% of the population growth projected to occur between 1980 and the year 2000 will happen in this region. Dade and Broward Counties alone will account for more than one quarter of Florida's projected growth. Broward and Palm Beach Counties are projected to grow at a rate much higher than the state average while Dade County will gain more persons than any other county in the State. Although the 15-24 age group is not projected to grow very much during the remainder of the century, nearly 60% of the growth of this age group will occur in South Florida. In addition, Dade, Broward, and Palm Beach Counties alone will account for more than 30% of the State's growth in 25-34 year old persons. The cultural diversity of this region is demonstrated by the presence of nearly 80% of the State's Hispanic citizens and more than 36% of the State's black citizens. The City of Miami, in particular, is emerging as a center of Latin American culture, trade and finance.

Needs for Professional Programs

Coordination of the supply of college graduates and the estimated labor market demand for various professions is an important aspect of postsecondary education planning, although the general utility of supply-demand comparisons is tempered by a number of considerations. First, Florida has a vast annual immigration, with considerable interstate and intrastate relocation, particularly among people in professions. Second, the match between academic majors and occupational pursuits may be quite tenuous. For some professions, such as sales and management, a number of academic fields may provide adequate preparation. Finally, comparisons based on even the best available data and the most appropriate assumptions can only roughly capture the complex dynamics of educational supply and professional demand.

A comparison of supply and demand data for the State shows that in a number of fields, including business and management, the health professions, engineering, computer science, and library science, colleges and universities in Florida are producing fewer graduates than will be needed in the State during this decade. In other fields, including biological and physical sciences, agriculture, veterinary medicine, architecture, and communications, Florida institutions appear to be producing more graduates than the projected demand will absorb. The following paragraphs outline the current balances in selected professional fields.

Business and Management

Florida will fall far short of the demand for persons trained in business and management. Graduates from many other majors, however, particularly liberal arts and social science majors, often enter business.

Computer Science

People in the fields of computer science and computer engineering are in great undersupply. If the technological information revolution continues as expected, Florida will need even more persons trained in these fields.

Medicine

Immigration is a significant factor in providing an adequate supply of physicians to meet Florida's medical needs. While Florida medical schools provide only 35% of the physicians needed, the number of physicians licensed in Florida each year increases (net) by approximately 1,000. The Florida Medical Association, the Florida Department of Health and Rehabilitative Services, the Commissioner of

Education's Medical Education Program Office, and a recent study by the Graduate Medical Education National Advisory Committee (GME-NAC) do not perceive a shortage of physicians, except in certain rural areas where the shortage is critical, and in certain medical specialties. As the first phase of the development of a comprehensive plan for health professions education in Florida, the Commission will provide the Legislature a report by March 1, 1983, containing an outline of the comprehensive plan, a description of the capabilities of existing groups to provide health manpower information useful for program planning, and recommendations on the best approach to collect health manpower planning information.

Dentistry

As with medicine, supply-demand comparisons show Florida producing an insufficient supply of dentists to meet projected demand, while the Florida Dental Association, the College of Dentistry at the University of Florida, and the Department of Professional Regulation do not perceive a shortage of dentists. The distribution of dentists within the State is extremely uneven, however, with some northern rural counties having no dentists and South Florida, particularly Miami, having a very high number of dentists.

Law

The graduation of lawyers in Florida, according to supply-demand comparisons, is in balance with the projected demand through 1990.

Engineering

Florida schools are providing less than 75% of the currently projected demand for engineers. As Florida continues to attract high-technology industries this shortage will have a significant impact on industry relocation decisions. Florida needs to expand and upgrade educational opportunities for engineers. Funds must be provided for the acquisition and maintenance of modern equipment. Salaries should be set at a level to support the hiring and retention of superior faculty members. Adequate, accessible continuing education opportunities should be provided for practicing engineers. Recent efforts by the Governor and the Legislature, however, to appropriate funds for quality improvement, for the purchase of scientific and technical equipment, for contracts with independent institutions, and for new capital facilities should have a positive effect on this situation. In addition, new programs have been established at Florida State, and Florida Agricultural and Mechanical, and at Florida International Universities. This Commission, as charged by the Legislature, will continue to review the State's needs for engineering education, and will present a report on this topic to the Legislature by March 1, 1983.

Nursing

Florida, as well as the nation, is experiencing a shortage of registered nurses especially in hospitals, which reported 2,500 RN positions vacant in 1980, with the greatest shortages in Southeast Florida. At current rates, Florida nursing education programs will supply only 32% of the demand for professional nurses (RN) and 58% of the demand for practical nurses (LPN) through 1990. It is not clear, however, how many of the RN position vacancies should be filled with baccalaureate, associate degree, or diploma nurses. While increased production of nurses is necessary to alleviate this crisis, long-term resolution will depend on determined, coordinated efforts within the health care system. In addition to producing more nurses, Florida also needs to provide adequate and accessible continuing education, capstone, and graduate nursing programs, as well as an articulated system which enables nurses to progress through the nursing profession in a way that ensures

recognition of prior competencies. As part of a comprehensive study of health professions education, the Commission will examine in greater depth Florida's needs for nursing education.

Enrollment Projections

Collegiate education enrollments in Florida are expected to increase during the next decade while enrollments are stabilizing or decreasing in many other states. Fewer traditional college-aged students in Florida are expected to enroll during this period (Table 4 and Table 5); older, more place-bound students, however, will enroll in increasing numbers. These students tend to enroll close to home on a part-time basis. Thus, full-time equivalent (FTE) enrollments, particularly in traditional university programs away from population centers, may be expected to decrease during the 1980s (Table 6). Public community colleges and urban universities will experience the most growth.

Universities now receive many more applications for limited access programs than they are able to accept. Therefore, demographic changes may not have a significant effect on university enrollments for these programs. Current enrollment plans within the State University System will limit lower-division enrollments. Consequently, the pool of potential students for other postsecondary educational institutions may increase.

Since nearly two-thirds of vocational students are older than traditional college-aged students, demographic changes probably will not have a negative impact on enrollments in this sector. Steady growth is forecast in all sectors of vocational education through 1990 (Table 8).

Vocational enrollments will increase by nearly 20% between 1980 and 1990, with the greatest growth in Adult Supplemental program enrollments. The accuracy of all enrollment predictions, however, hinges upon such unpredictable variables as shifting student interest, changing economic conditions, and fluctuating state appropriations.

Future Trends

Continued Growth

While the future is always uncertain, we can foresee some characteristics of the next twenty years. Most experts agree that in the absence of a major depression or natural disaster, Florida should experience continued growth in the next two decades, although perhaps not as rapid as in the years before the energy crisis. This growth includes the continuing immigration of people and businesses. Tourism will increase and Florida should continue to attract international business, particularly to Miami, which is already one of the leading financial centers in this hemisphere. Florida will attract a good share of the growing electronics and communications industries over the next twenty years. By the year 2000, people will have more leisure time and more discretionary income. Higher technology and better production processes will allow inflation to be controlled through greater worker productivity while the average work week may be reduced by as much as 20%. Advancing technology will allow more effective interaction among a wide range of professionals and technicians, theoreticians and practitioners.

Expansion of Knowledge and Technology

Perhaps the most significant trends, both for society in general and education in particular, relate to the extraordinary expansion of knowledge and technology. With knowledge doubling at least every ten years, the country is predicted to develop into a society "in which processing the exchange of information and knowledge with telecommunications and computers plays a significant role."¹ Such a society would have the following characteristics:

- a) **Increased reliance on knowledge.** Knowledge will continue to explode and be the basis for technological innovations.
- b) **Spread of the knowledge class.** By the year 2000, the technical and professional class will be the largest group in our society.
- c) **Increased emphasis on services rather than goods.** Human services (managerial, cultural, health, social) are beginning to dominate the occupational landscape, far surpassing the goods-producing sector. The professional services in health, government, education and arts directly determine people's welfare and development. Postsecondary education is the major producer of professional service workers.

The growth in the next two decades will greatly depend on the continued development of technology and the creation of ways to use it so that both economic and human conditions are improved. Expanding and directing this future growth uncovers specific needs, which in turn pose challenges for education. Some of these needs and their educational implications are summarized below.

Problem-Solving

With the new technology, the amount of information will increase even more rapidly, but its retrieval will be easier. This will allow a greater premium to be placed on the effective use of knowledge in problem-solving and decision-making. Education must prepare people to use the greater powers of analysis that higher technology offers. The danger is that easier communications will result in the avoidance of deeper analysis and a situation in which people use technology only to retrieve more facts, rather than using them in creative ways.

Economic Specialization

In the next 20 years there will likely be more specialization in the workplace to respond to the need for greater productivity and higher quality products and services. Such specialization will be fueled by technology and marked by constant change in the nature of specific occupations. The technician class will become more crucial to economic success, owing to the need for highly-trained people in specialized technical fields. Education of future technicians must be based on high-level technological demands and the likelihood of constant changes, which indicate continued upgrading and retraining. The great technical complexity and the need for occupational changes and retraining will require education that monitors the development of technical fields and recognizes the need for timely and efficient access.

Technology and improved management, however, will allow workers flexibility and creativity in their specialties that were not possible

¹Lewis, Arthur, J., et al. *Social and Economic Trends Influencing Education*. Tallahassee, Florida: Florida Department of Education, 1979.

when production was more labor-intensive. Moreover, occupational specialization should permit more time for social and cultural activities.

**Importance
of Manage-
ment**

Along with this trend toward greater economic specialization is the growing importance of people who can manage and organize economic and social complexity. Society will see a premium placed on professionals who can set goals, identify problems, apply information to their analysis, and create solutions and make decisions which advance integrated policy. Education, therefore, must enhance abilities to think critically, solve problems and make decisions. Management will also be relied upon to make sure that the more specialized and technology-based economy meets a wide range of people's needs, creating both economic and human benefits.

**Essential
Learning
Skills**

In a time when information, jobs and organizations change rapidly, learning how to learn will be the most important goal of education. People must learn how to use the vast amount of information to meet the many changes and challenges of a lifetime. While specific information will change and increase, knowledge of how to use and apply it will remain a critical skill to be used over and over.

**Importance
of the Liber-
al Arts**

Although we have given considerable emphasis to the rise and importance of high technology, we should remember that the development of the individual requires a broad base of knowledge and values as guides to living. The future demands, therefore, that postsecondary education give due regard to programs in the liberal and fine arts to round out the educational process. The worthiness of liberal arts institutions has been defended throughout this country's progress. It must not be forgotten at a time when scientific and technological preoccupation is so dominant.

**Lifelong
Education**

The need for education will increase as the pace of economic and social change quickens and as more people bring their individual needs for economic, cultural and intellectual advancement to postsecondary education. People will shift jobs more often and be expected to meet a variety of social changes throughout their lifetimes. Florida's population will become even more diverse over the next two decades.

**Older
Adults**

Older adults will compose an increasing proportion of Florida's population. Although traditional younger persons will still be key clients of postsecondary education, adults who require education for occupational advancement or for personal enrichment are placing new and greater demands on postsecondary education. More and more students are attending part-time in order to combine study, work, and family responsibilities.

Women

The changing roles and aspirations of women, resulting from their emerging economic power, rising divorce rates and the increase in the number of single parent families need to be considered in planning future postsecondary education. Minorities are increasing in numbers if not as a proportion of the population. In looking to education for social and economic advancement, blacks, Hispanics, the handicapped and other special groups present different needs calling for differing responses.

**Minorities
and
Handicapped**

People's needs for education will continue, and should be encouraged to continue, throughout their lifetime. Greater mobility is causing more frequent social, career and occupational changes. A more mature and mobile population is turning to education increasingly for help in these transitions. As society expands its knowledge and as each person's

**Individual
Needs**

horizons widen, much of the economic, cultural and individual growth of the State depends on further education. In meeting these pressures, postsecondary education will be challenged to relate its academic theories to the experience and concerns of mature individuals.

Postsecondary education must recognize the diverse and distinct needs of individual students. Greater emphasis should be placed on developing programs which meet particular needs. As more people with different backgrounds search for education after high school, our system of postsecondary education must be able to respond in a variety of ways.

FLORIDA REPORTING REGIONS

FIGURE 1

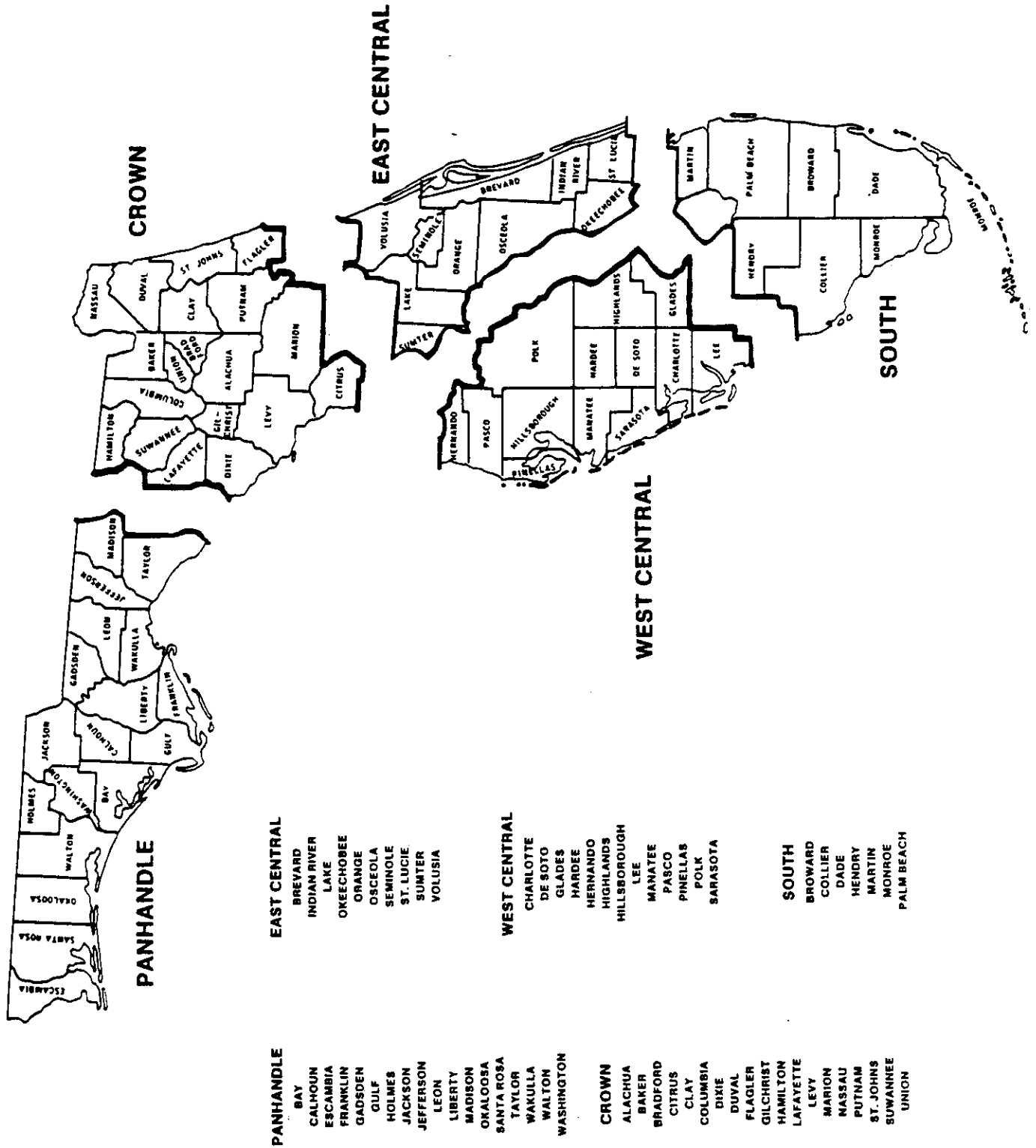


TABLE 1
Projected Population Growth, Age 15-24, by Region: 1980-2000
(Medium Projections, in Thousands)

| | Panhandle | Crown | East Central | West Central | South | Florida |
|-------------------------|-----------|-------|-----------------|-----------------|-------|---------|
| 1980 (Actual) | 181.4 | 243.1 | 272.7 | 393.5 | 532.1 | 1,622.8 |
| 1985 | 165.2 | 232.4 | 271.1 | 411.4 | 556.7 | 1,636.9 |
| 1990 | 155.4 | 223.5 | 250.7 | 398.6 | 528.1 | 1,556.3 |
| 1995 | 157.3 | 225.4 | 250.5 | 401.1 | 527.1 | 1,561.4 |
| 2000 | 167.6 | 242.0 | 276.3 | 437.0 | 578.5 | 1,701.4 |
| Increase | | | | | | |
| 1980-1985 | -16.2 | -10.7 | -01.6 | 17.9 | 24.6 | 14.1 |
| 1980-1990 | -26.0 | -19.6 | -22.0 | 05.1 | -04.0 | -66.5 |
| 1980-2000 | -13.9 | -01.1 | 03.6 | 43.5 | 46.4 | 78.6 |
| Percent Increase | | | | | | |
| 1980-1985 | -08.9 | -04.4 | -00.6 | 04.5 | 04.6 | 00.9 |
| 1980-1990 | -14.3 | -08.1 | -08.1 | 01.3 | -00.8 | -04.1 |
| 1980-2000 | -07.7 | -00.5 | 01.3 | 11.1 | 08.7 | 04.8 |

Source: Bureau of Economics and Business Research, University of Florida

TABLE 2
Projected Population Growth, Age 25-34, by Region: 1980-2000
(Medium Projections, in Thousands)

| | Panhandle | Crown | East Central | West Central | South | Florida |
|-------------------------|-----------|-------|-----------------|-----------------|-------|---------|
| 1980 (Actual) | 139.2 | 204.6 | 218.5 | 348.0 | 501.1 | 1,411.4 |
| 1985 | 168.5 | 243.5 | 281.5 | 434.3 | 626.6 | 1,754.6 |
| 1990 | 181.3 | 261.9 | 332.4 | 506.2 | 702.0 | 1,983.8 |
| 1995 | 165.3 | 250.0 | 326.2 | 514.8 | 699.5 | 1,955.4 |
| 2000 | 155.4 | 238.8 | 300.1 | 491.2 | 656.4 | 1,841.8 |
| Increase | | | | | | |
| 1980-1985 | 29.4 | 38.9 | 63.0 | 86.4 | 125.5 | 343.2 |
| 1980-1990 | 42.1 | 57.3 | 113.9 | 158.2 | 200.9 | 572.4 |
| 1980-2000 | 16.2 | 34.2 | 81.6 | 143.2 | 155.3 | 430.4 |
| Percent Increase | | | | | | |
| 1980-1985 | 21.1 | 19.0 | 28.8 | 24.8 | 25.0 | 24.3 |
| 1980-1990 | 30.3 | 28.0 | 52.1 | 45.5 | 40.1 | 40.6 |
| 1980-2000 | 11.7 | 16.7 | 37.3 | 41.1 | 31.0 | 30.5 |

Source: Bureau of Economics and Business Research, University of Florida

TABLE 3

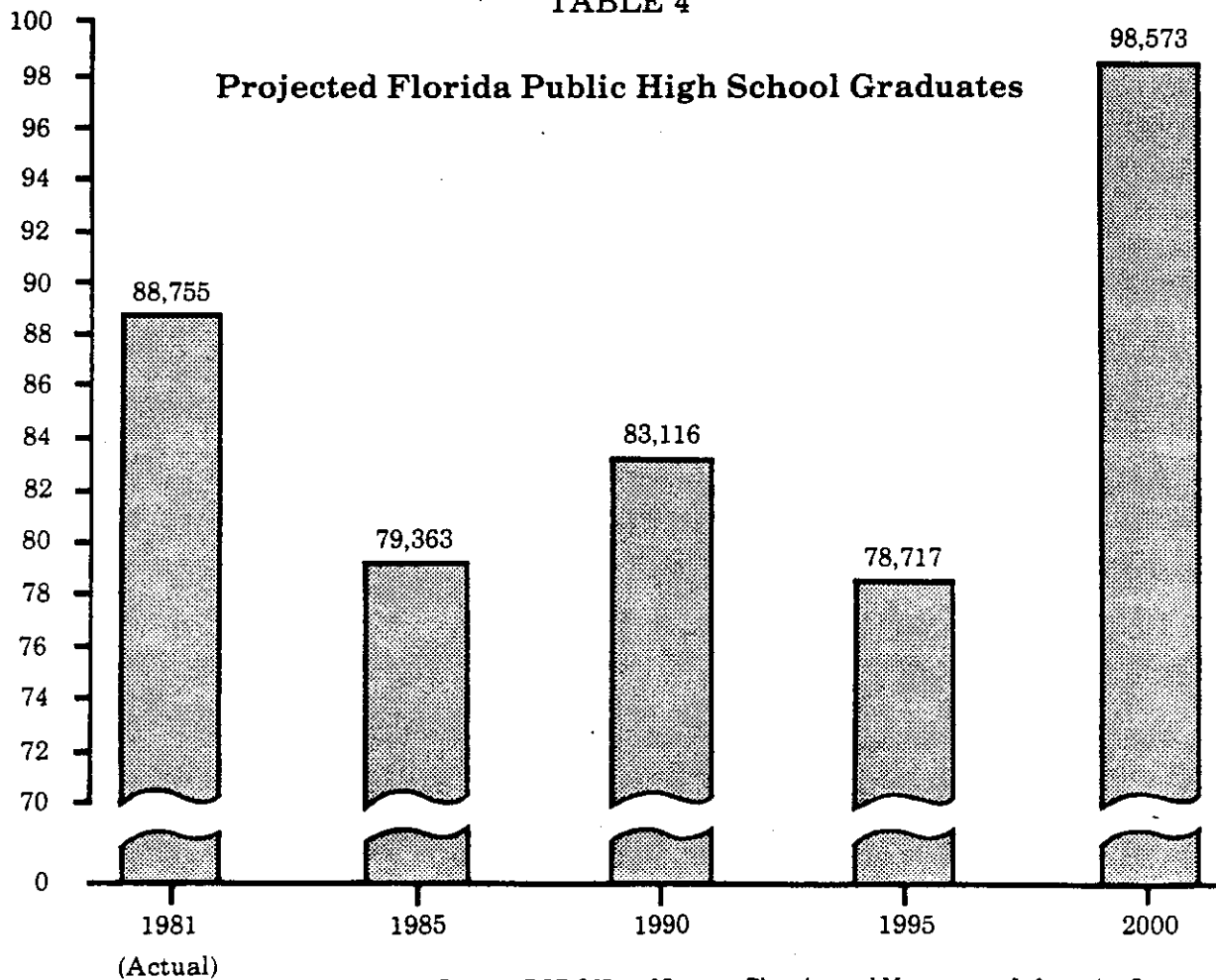
Collegiate Education Enrollment (Headcount), by Sector and Region
Fall, 1980

| | State University System | Community Colleges (A&P) | Independent Institutions | Total |
|--------------|-------------------------|--------------------------|--------------------------|---------|
| Panhandle | 32,559 | 16,366 | - | 48,925 |
| Crown | 34,393 | 16,922 | 4,157 | 55,472 |
| East Central | 12,819 | 22,255 | 16,277 | 51,351 |
| West Central | 24,440 | 22,782 | 7,903 | 55,125 |
| South | 19,800 | 42,853 | 27,618 | 90,271 |
| FLORIDA | 124,011 | 121,178 | 55,955 | 301,144 |

Source: State University System and Division of Community Colleges MIS. State Board of Independent Colleges and Universities.

TABLE 4

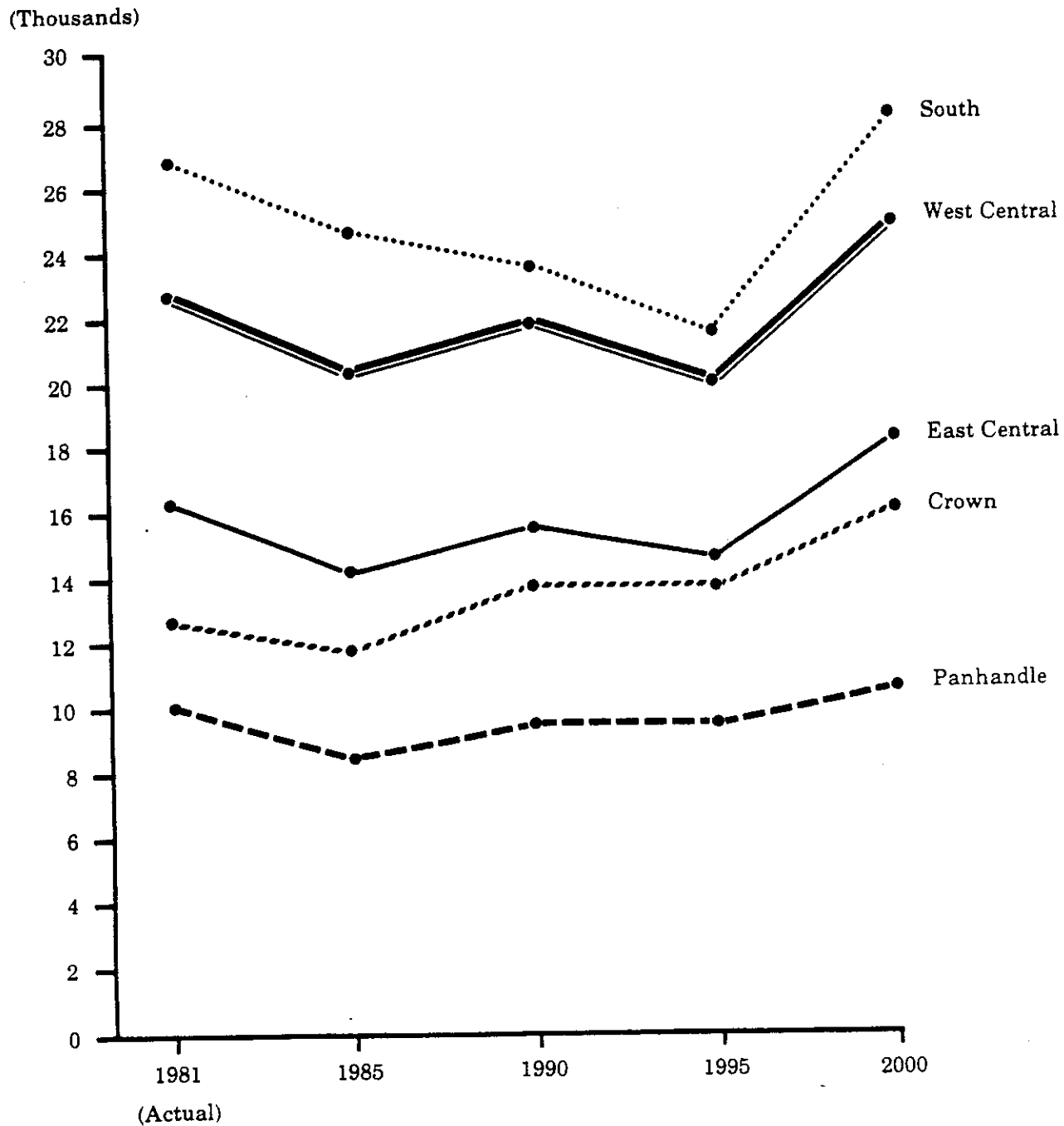
Projected Florida Public High School Graduates



Source: DOE Office of Strategy Planning and Management Information Systems.

TABLE 5

PROJECTED FLORIDA PUBLIC HIGH SCHOOL GRADUATES
BY REGION



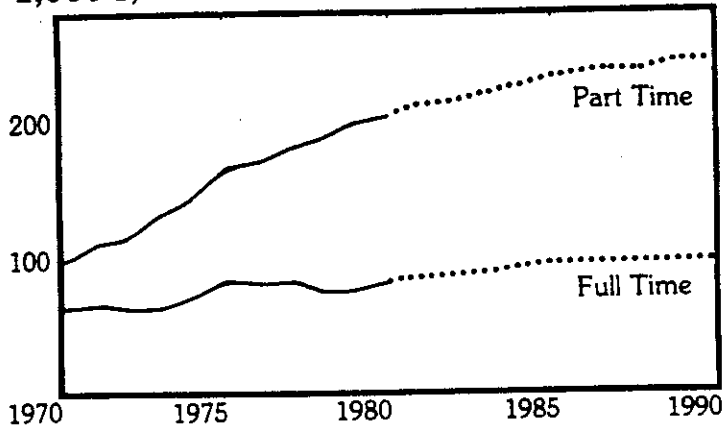
SOURCE: DOE Office of Strategy Planning and Management Information Systems.

TABLE 6
Enrollment Trends

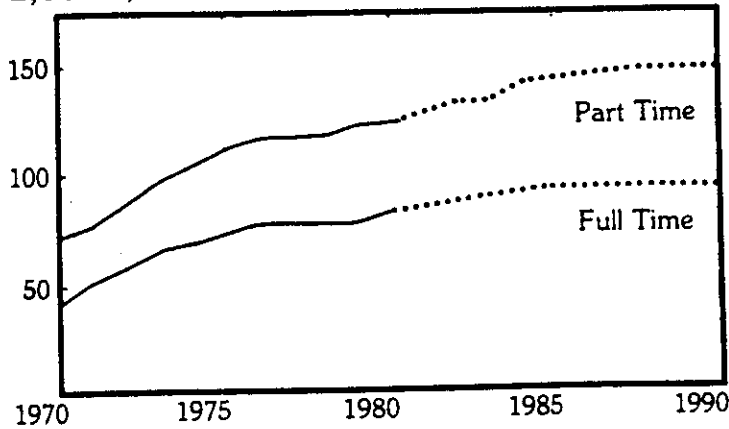
| | 1969-70 | 1979-80 | % Change | 1989-90* | % Change |
|------------------------------|---------|---------|----------|----------|----------|
| Number of Graduates | | | | | |
| Public High Schools | 72,044 | 87,826 | 21.9 | 87,950 | 0.1 |
| Adult Education | | | | | |
| Course Diplomas | 6,584 | 6,180 | 6.1 | | |
| GED Diplomas | 5,965 | 25,748 | 331.6 | | |
| Total | 12,549 | 32,928 | 162.4 | 38,450 | 16.8 |
| Associates | 14,935 | 27,286 | 82.7 | 31,149 | 14.2 |
| Bachelors | 14,017 | 19,982 | 42.6 | 22,280 | 11.5 |
| Masters | 3,780 | 4,904 | 29.7 | 6,550 | 33.6 |
| Professional & Doctorates | 1,103 | 1,574 | 42.7 | 2,100 | 33.4 |

*Projections are based on population projections of relevant age groups, not on policy decisions as to program growth, caps, etc.

Fall Headcount
(IN 1,000's) Community Colleges



Fall Headcount
(IN 1,000's) State University System



Source: Florida Department of Education. **Focus on Public Education: The Annual Report of the Commissioner of Education.** State of Florida, January, 1982. p. 11.

TABLE 7
Vocational Education Enrollment (Headcount), by Sector and Region
Fall, 1980

| | Public School Districts | | Community Colleges | Total |
|--------------|-------------------------|-----------------------|-----------------------|---------|
| | Adult Preparatory | Adult Supplemental | | |
| Panhandle | 11,880 | 5,462 | 8,286 | 25,628 |
| Crown | 5,336 | 2,054 | 25,116 | 32,506 |
| East Central | 13,365 | 19,734 | 31,070 | 64,169 |
| West Central | 36,675 | 36,548 | 21,290 | 94,513 |
| South | 59,933 | 28,486 | 18,507 | 106,926 |
| Florida | 127,189 | 92,284 | 104,269 | 323,742 |

Source: Division of Community Colleges and Division of Vocational Education MIS.

TABLE 8
Projected Vocational Education Enrollment (FTE)
1980-1990

| Year | Public School Districts | | Community Colleges | Total |
|-------------------|-------------------------|-----------------------|-----------------------|---------|
| | Adult Preparatory | Adult Supplemental | | |
| 1980-81 (actual) | 38,399 | 5,293 | 65,620 | 109,312 |
| 1981-82 | 39,349 | 5,794 | 67,549 | 112,692 |
| 1982-83 | 40,199 | 5,944 | 69,478 | 115,621 |
| 1983-84 | 41,011 | 6,090 | 71,408 | 118,509 |
| 1984-85 | 41,785 | 6,233 | 73,337 | 121,355 |
| 1985-86 | 42,527 | 6,373 | 75,266 | 124,166 |
| 1986-87 | 43,250 | 6,514 | 76,061 | 125,825 |
| 1987-88 | 43,973 | 6,656 | 76,855 | 127,484 |
| 1988-89 | 44,697 | 6,798 | 77,650 | 129,145 |
| 1989-90 | 45,420 | 6,940 | 78,444 | 130,804 |
| Increase, 1980-85 | 3,386 | 940 | 7,717 | 12,043 |
| -Percent Increase | 08.8 | 17.8 | 11.8 | 11.0 |
| Increase, 1980-90 | 7,021 | 1,647 | 12,824 | 21,492 |
| -Percent Increase | 18.3 | 31.1 | 19.5 | 19.7 |

Source: Florida Department of Education, Office of Strategy Planning/MIS.

Table 9
State University System Enrollment
Blacks

| Degree | Fall 1977 | | Fall 1978 | | Fall 1979 | | Fall 1980 | | Fall 1981* | |
|--------------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|------------|--------------|
| | % Black | Number Black | % Black | Number Black | % Black | Number Black | % Black | Number Black | % Black | Number Black |
| Undergraduate | 11.00 | 10,523 | 10.94 | 11,028 | 10.56 | 11,004 | 10.17 | 11,036 | 9.58 | 10,459 |
| First Professional | 4.67 | 116 | 5.09 | 134 | 4.82 | 135 | 4.33 | 123 | N/A | N/A |
| Graduate | 7.37 | 1,116 | 7.05 | 1,078 | 6.14 | 935 | 5.07 | 818 | 4.84 | 807 |

NOTE: Data are percent black of all race/ethnic groups.
Data are from Tables B-15 through B-18 in Florida's Desegregation Status Reports (1977-78 through 1980-81).
*Fall 1981 data are preliminary, dated 5/26/82.
N/A — Data not available.

23

State University System Enrollment
Hispanics

| Degree | 1977-78 | | 1978-79 | | 1979-80 | | 1980-81 | | 1981-82 | |
|--------------------------------|---------|--------------|---------|--------------|---------|--------------|---------|--------------|---------|--------------|
| | % Hisp. | Number Hisp. | % Hisp. | Number Hisp. | % Hisp. | Number Hisp. | % Hisp. | Number Hisp. | % Hisp. | Number Hisp. |
| Undergraduate/ Unclassified | 4.58 | 4,353 | 5.08 | 5,121 | 5.20 | 5,418 | 5.81 | 6,304 | 6.20 | 6,770 |
| First Professional | 3.59 | 89 | 3.95 | 104 | 3.79 | 106 | 3.87 | 110 | 3.96 | 114 |
| Graduate | 2.54 | 385 | 2.97 | 454 | 3.17 | 482 | 3.58 | 577 | 3.17 | 528 |

SOURCE: State University System, MIS.

Table 10
**Florida Community College Enrollment
 By Race and Ethnicity
 1976 - 1981 (Fall Enrollments)**

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 |
|------------------|---------|---------|---------|---------|---------|---------|
| Blacks | 21,648 | 22,982 | 20,414 | 20,021 | 18,560 | 18,693 |
| Percent of Total | 13.8 | 14.3 | 12.6 | 11.9 | 10.7 | 10.2 |
| Hispanics | 11,008 | 11,580 | 14,433 | 15,094 | 16,686 | 19,343 |
| Percent of Total | 7.0 | 7.2 | 8.9 | 8.9 | 9.7 | 10.5 |
| Total | 156,412 | 160,938 | 162,586 | 168,852 | 172,886 | 183,767 |

Note: Data include college level headcount. They do not include non-resident aliens and unclassified students.

Source: EF-1, Opening Fall Enrollment, College Level Headcount, Department of Education, Division of Community Colleges.

PART II

Strengthening Organization, Coordination and Management

DISTINCTIVE INSTITUTIONAL ROLES

The Importance of Distinctive Roles

Greater clarity and distinctiveness in institutional roles are fundamental to the main goal of strengthening postsecondary education. Agreement on distinctive roles encourages institutions to focus on a limited number of priorities, making it more likely that each priority will receive the emphasis needed for a strong program. Distinctive roles also guarantee that diverse institutions and programs will exist, thus enabling a wide range of state needs to be met without compromising quality or duplicating resources. Clear roles allow for more coordinated, cost-effective use of state resources by limiting unnecessary duplication and by building centers of strength.

Sectoral and institutional governing and coordinating boards should be responsible for establishing specific roles for the institutions under their jurisdiction within the broad guidelines of the State Master Plan.

- 1. Each institution, with appropriate direction from governing and coordinating boards, should make clear its priorities so that its areas of strength are pronounced. The roles of different institutions should be coordinated so that, taken together, they meet important state needs and reflect a cost-effective use of state resources. This would limit unnecessary duplication and use the full range of postsecondary education resources—public and independent. The Commission will recommend guidelines to develop these roles, review plans that emerge from the sector and institutional boards, and relay them to the State Board of Education and the Legislature.*

Greater Distinctiveness

The public, students and faculty should come to know each institution for its specific kinds of study and programs. Even when several institutions offer the same discipline or level of research and study, individual institutions should focus on different areas within the program.

A worthy goal is for the State to work toward a time when each major program and level of study is nationally known for excellence as offered somewhere in Florida postsecondary education. Some institutions may have more of these programs than others, but each institution, whether by emphasis on a certain student level or on a specific program, should have characteristics that set it apart from others and give it prestige. The goal of greater specification and clarity in institutional roles should apply within, and across the different sectors of postsecondary education—public and independent, two-year and four-year, academic and vocational.

- 2. Greater distinctiveness should be developed in individual institutional roles. Each institution should come to be known for its strengths. System and institutional governing and coordinating boards should identify specific programs and levels of study on which each institution will build its reputation for strength and excellence.*

- 3. Under the direction of the State Board of Education, the Commission should ensure that sector and institutional boards make program decisions that lead to complementary and distinctive roles among all institutions and sectors, public and independent.*

**Issues in
Developing
Distinctive
Institutional
Roles**

The creation of distinctive roles is particularly important to universities and community colleges because of their multiple functions, kinds and levels of programs, types of students, and different faculty activities. These institutions have roles that may include undergraduate academic and professional education, graduate education, vocational programs, adult and remedial education as well as faculty instruction, research and public service. Agreement on where each of these educational functions is best provided will lead to more effective institutional roles.

Comprehensive Roles in Undergraduate, Vocational, Adult, Remedial Education

Later parts of the Plan address the strengthening of vocational, adult and remedial education and the more effective coordination of the joint roles of the community colleges and school districts in providing these services. These programs should be coordinated more effectively on the regional and local levels to improve student articulation and to make resource use more effective.

Remedial education is a special case. Remediation of pre-college skills should become the responsibility of the K-12 sector by 1990. This recommendation does not ignore the current literacy crisis and urges that community colleges conduct, over the next eight years, a 'transitional program' of remedial education for the generation of students now in K-12.

**Community
College
Functions**

A fundamental planning issue addressed was the capacity of the community college to offer effectively the diverse and comprehensive programs it now provides. By their nature, community colleges have wide-ranging, comprehensive purposes, serving people of all ages and all abilities (top high school graduates to remedial students and adults requiring basic education). They provide access to postsecondary education for many students who would not otherwise be able to attend because of financial, family, work or geographical obstacles. In Florida, we have expected the community college to serve as a principal provider of the first two years of a baccalaureate, undergraduate education. This emphasis on university parallel programs through the 'two-plus-two' system is greater than in any other state.

Community colleges also offer a wide array of vocational courses, serving in many areas as the prime provider of vocational education. Programs include those to prepare young students for entry into an occupation and those to upgrade the skills of people already working, particularly older persons. Even in locales where the school districts have the basic responsibility for postsecondary vocational education, community colleges offer many occupational programs at higher levels of the career ladder. These colleges also provide a wide variety of

**Increased
Popularity
of Commu-
nity Col-
leges**

**Comprehen-
sive Role**

community service and avocational courses, particularly to older students. In summary, community colleges in Florida attempt to meet a large number of diverse needs and to serve many purposes.

The characteristics that have made the community college so popular in the past—its low cost, ready access and diverse and flexible programming—are traits that will fit well in meeting the educational needs of an even larger part of Florida's population in the future. As Florida's population becomes proportionally older and more students attend college while working and raising families, the community college will be called upon even more to provide its broad range of services. Since it is best suited to meet the needs of a variety of people of all ages, the community college should be supported in this role. The success with which the community college has carried out such a broad range of activities makes the comprehensiveness of the community college its real measure of distinctiveness.

- 4. The comprehensive role of the community college should be reaffirmed and strengthened.*

Distinctive Roles in Undergraduate Education

The State should give a high priority to strengthening undergraduate academic and professional education. To do this, clearer institutional responsibilities are needed. Several key issues concerning institutional roles must be resolved as part of a concerted strategy to achieve excellence in undergraduate education.

**Two-Plus-
Two System
Meets Many
Needs
Effectively**

Strengthened Two-Plus-Two System

In Florida, the community college-to-university pattern of undergraduate education provides wide access to a baccalaureate degree. The system has worked reasonably well, is cost-effective, and serves many kinds of students. These students include younger students who because of financial, employment, or family or personal considerations prefer to stay near home for the first two years of college as well as older, place-bound citizens. These latter students over 24 years old will comprise the greatest share of additional students through the year 2000. Later sections of this Plan recommend ways to enhance the two-plus-two system.

- 5. Given its past effectiveness and potential for even stronger performance, the current two-plus-two system should be retained and strengthened.*

Stronger College Parallel Programs

The many and diverse missions of the community college and its open door philosophy lead some to question the ability of this sector to contribute to the goal of stronger undergraduate education in Florida. The Commission believes that the community college's role in baccalaureate education should be maintained and that it can strengthen its role in the two-plus-two system. The large part played by the community college programs means that strengthening undergraduate education depends as much upon initiatives taken in the community colleges as upon actions by the universities.

Appropriate academic standards should be established for both placement in and exit from college parallel programs, which would ensure that students have the ability to benefit from additional higher education before proceeding. Strengthening the continuity of community college and university programs is crucial to enhanced undergraduate education in Florida. A later section of the Plan offers several specific recommendations for building stronger linkages between the two sectors to benefit the large numbers of academic transfer students.

**Clearer
Academic
Placement
Standards**

- 6. *The role of the community college in undergraduate education should be strengthened. First, placement in college-parallel programs should depend upon meeting statewide standards for specific levels of basic learning skills. Second, remedial education should be separate and distinct from the college parallel program. Third, the College Level Academic Skills Test should be used to develop minimum standards for the academic skills required to continue studies beyond the sophomore level.***

Additional Lower Divisions

**Strong
Under-
graduate
Education**

Continuity and integration of student academic programs lead to strong undergraduate education. These characteristics are developed more directly when faculty and students are together throughout a four-year sequence. Cooperative faculty planning is crucial in developing integrated student programs and such planning is more likely to occur among faculty in the same institution. However, closer interaction between community college and university faculty is possible and should be encouraged. For its population and compared to all other states, Florida has the fewest number of freshmen and sophomores in the lower divisions of full four-year universities. While most students would likely continue to prefer the community college-to-university pattern for reasons of access and cost, some students would elect to attend a full four-year university if more places were available.

The addition of limited lower divisions is possible without denying or harming the effectiveness of two-plus-two baccalaureate education. Moreover, the latter pattern will remain important and special steps should be taken to strengthen the linkages between community colleges and universities (see later section on coordination).

**Additional
Lower Divi-
sions in Uni-
versities**

- 7. *As a way to strengthen undergraduate education by providing more options for students to participate in an uninterrupted four-year baccalaureate program, the Board of Regents should add appropriate lower divisions to the primary campuses of the existing upper-level universities if the following conditions are met:***
 - a. *Florida's two-plus-two structure should be recognized by limiting the total freshmen and sophomore enrollments of new lower divisions.***
 - b. *Any loss of enrollment in community colleges due to the new lower divisions should not result in a proportionate loss of resources. Community colleges should be***

allowed to increase resource levels per student, thus strengthening their undergraduate programs.

- c. Planning for the new lower divisions should be coordinated with nearby independent institutions regarding numbers of students and kinds of programs to be offered.*
 - d. The development of programs and courses of new lower divisions should involve community college faculty, staff, and students. This will deepen the university's commitment to a strengthened two-plus-two relationship and lead to a more comparable freshman-sophomore experience for native and transfer students.*
 - e. Undergraduate education should remain the primary thrust of the universities that add lower divisions. Doctoral programs should not be allowed to alter this primary emphasis on baccalaureate/master's education.*
 - f. The results of the legislatively mandated merger studies should be used in planning the new lower divisions.*
 - g. The Board of Regents should formulate detailed plans which address the above enrollment, financial and role considerations prior to approval of new lower divisions.*
- 8. The Postsecondary Education Planning Commission should periodically evaluate the impact of the new lower divisions on nearby institutions and the extent to which the enrollment and program conditions are being met. The results should be reported to the State Board of Education.*

Branch Campuses

Two-Plus-Two Approach for Branch Campuses

As greater needs emerge for undergraduate education through the baccalaureate level in the growing areas of the State, additional branch campuses will be proposed. Great restraint should be exercised in approving new branches or centers. Strict criteria for establishing the need for and the capacity to develop a new branch should be established. These guidelines should represent educationally and economically significant tests which must be met before formal planning is authorized. When compelling need is found, student demand can best be met and resources used most cost-effectively through the two-plus-two approach. In this way, upper-level programs are offered by a university while a community college has the responsibility for freshman and sophomore courses. When the need for a new branch campus is found, it should be placed in conjunction with a university so that both faculties can plan programs jointly.

- 9. The Commission, in cooperation with the Board of Regents and the Community College Coordinating Board, should develop guidelines for use by the State Board of Education in considering the need for new branch campuses. These guidelines should recognize the necessity for restraint in the creation of additional branches and centers. In cases where need is compelling, any new branch or center should reflect Florida's two-plus-two approach, and should fully*

utilize joint programs and joint facilities between state universities, community colleges and independent institutions whenever possible. Such joint approaches should improve student transfer between the two institutions and should result in decreased capital expenditures. Facility construction for a new branch or center should not be approved by the respective governing board unless it is clearly demonstrated that cooperative use of existing facilities is not feasible. Any proposal should be evaluated both in terms of initial capital construction costs and long-range operational expenses.

**University
Emphasis
on Under-
graduate
Education**

Distinctive University Roles

Undergraduate education should be of high priority in all universities. The possible conversion of the upper-level universities to full four-year programs supports this mission. Also, it is important that some institutions have roles which specifically focus on undergraduate and beginning graduate students. To this end, doctoral programs should be limited at those institutions whose primary role is baccalaureate/master's education. At this time, six universities in the SUS and a majority of the state's independent institutions have such roles.

- 10. Within the present State University System, six public universities should have baccalaureate/master's education as their primary mission.*

Distinctive Roles In Graduate Education

Resources for graduate programs must be used selectively due to the high cost of advanced education and the need to avoid any unnecessary duplication. The quality of graduate education and the cost-effective use of resources largely depend upon the presence of distinctive institutional roles, through which each institution is committed to a certain scope of activities.

Master's Programs

A variety of master's level programs should be made accessible to place-bound students.

**Regional
Access to
Master's
Programs**

- 11. Master's degree programs may be duplicated in different areas of the State when the advantages of duplication significantly outweigh the increased costs.*

However, master's degree programs which require large investments in expensive equipment and facilities, or a large number of specialized faculty, should not be offered in every university. Certain highly specialized programs should be offered at only one location. Duplication of master's programs should be minimized at the regional level and, in cases in which need and demand are not great, on the statewide level.

- 12. Each institution should take into account the current offerings of its counterparts, including institutions in other sectors, before seeking new master's programs. This should be done particularly at the regional level.**

Doctoral Programs

A doctoral degree (Ph.D.) is the highest earned degree conferred by a university. The organization of the academic world is such that prestige and financial rewards flow to those institutions and their faculty members who offer quality programs terminating in such a degree. In part this result stems from the nature of the accomplishment required to achieve the degree. Screening for admission to a doctoral program is rigorous and few college graduates qualify. A number of judgmental gates must be passed by a student along the path to its achievement. Failure at any of these gates terminates participation in the program. Many who undertake to achieve the degree do not reach their goal. Some are led to settle for the lesser master's degree. The median length of time for which a full-time student registers for study is five years. Few finish in less than four years, and many require seven or eight.

The primary goal is to train individuals in the art of research and in the process to advance knowledge in an extremely narrow area of specialization. This plunge into the unknown is accomplished through a mixture of class work in small groups and seminars. Finally a student writes a thesis resulting from a research project in which the student is in a one-to-one relationship with a senior faculty member. Rich supporting facilities and services are necessary in the form of extensive library holdings, a wide range of current periodicals, and science and engineering laboratories which contain the latest and most refined equipment. Few programs can stand alone. Most doctoral programs require vigorous support from related disciplines. Physics, for example, must be supported by a strong mathematics department.

Relatively few universities possess the combination of quality faculty, facilities, libraries, programs, resources or reputations to mount doctoral programs. Only 22% of the 1,962 accredited four-year degree granting higher education institutions in the U.S. offer doctoral degrees. Many of these 436 universities offer doctoral programs in only a few subjects. Only 31,319 doctoral degrees were awarded in the U.S. in 1980-81 and of these only 5,736 were in Engineering and the Physical Sciences. Fully 24% of total degrees were in the fields of Education; 21% in the Social Sciences.

Because of individualized instruction on the frontiers of knowledge, a doctoral program represents a substantial financial commitment. Demand is low, cost is high and unit cost in terms of total cost of each degree awarded is extraordinary. Some idea of the cost may be gained from the fact that the funding formula for the State University System provides for an allocation per FTE advanced graduate student 5½ times greater than for lower division students. In practice, the utilization of resources makes the actual cost even more disproportionate. Consequently, against the always present constraint of limited state resources, advanced graduate programs must be regarded as a state-wide resource and developed selectively. These programs cannot be offered in all institutions.

Ph.D. programs emphasize the expansion of knowledge and the preparation of those who will make research and teaching their career. Competition for the best students and faculty is sharp because only quality faculty and programs are given credence in the peer-oriented academic profession. Competition is national, rather than intrastate. A critical trend has been a decreasing demand for traditional academicians in some disciplines over the 1970s—a trend which is likely to continue through the next decade. Decreasing demand for traditional academicians and the requirement of quality for Ph.D. programs to be cost-effective make it extremely important for programs to be carefully selected and of high quality by national standards. Programs which do not approach these standards, as reflected in the success and effectiveness of faculty and students, will be of little value in meeting state needs.

**Applied
Ph.D.
Programs**

Doctoral programs can emphasize the application of university knowledge and expertise to the research needs of the economy and society. In these cases, the relationship between academic and non-academic settings is crucial. As the problems of society get more complex, the solutions require better research and improved technology. It becomes even more important for practicing professionals to research and to apply their knowledge to the community as well as the universities. Some of these needs are for research and study in the traditional professions (such as engineering, education, business administration, medicine, and social work) to enable professionals, who are practicing or who plan to practice in a non-academic setting, to add to their own knowledge and to that of their profession.

Professionals are called upon to create new knowledge and to apply it to the complex issues and problems faced by society, business, industry and government. These problems, however, seldom can be solved within the confines of any single discipline or profession, but rather require the application of many social and technical fields of study by professionals who have been trained in the emerging interdisciplinary approaches.

The actions required to strengthen doctoral programs are straightforward—hire the best scholars nationwide, recruit the top students, and supply the latest equipment and extensive library resources. To do so, however, is costly. Competitive salaries and other support are needed to attract and retain the best faculty and professional staff. Financial aid and other incentives are needed to recruit the best graduate students. No state can afford the unnecessary duplication of specialized programs. Therefore, the major recommendations for strengthening graduate education (particularly doctoral education) concern the careful use of available resources to produce high quality programs.

**Distinctive
Programs**

Differentiated emphases and unique strengths should be developed in all doctoral programs, even within programs of the same discipline. A goal should be to achieve during the balance of this century a number of doctoral programs of national and international reputation in selected disciplines. In consideration of state economic development goals, disciplines with outstanding doctoral programs should include at least selected fields within Engineering, Mathematics and the Natural and Physical Sciences. Normally, one or at most two, institutions

should serve as the focal point for each prestigious doctoral program in each critical discipline.

Distinctive Links Between Programs and Needs

Not all programs can be expected to meet the highest international or national standards. All advanced graduate programs, however, should be distinctive in regard to their specific goals. This standard is particularly relevant for doctoral programs that are established to meet the local needs of practicing professionals or to address regional issues or problems. The local contributions of these programs depend in part upon the strength of the ties between the university and community. Accordingly, their measure of distinctiveness should be related to how closely they respond to the specific needs of the region.

Location of Doctoral Programs

Florida now has three public universities whose programs serve statewide needs, and which have degrees at all levels, some professional schools and doctoral programs in a broad range of disciplines. These three universities are the University of Florida, Florida State University and the University of South Florida.

Importance of Differentiated Missions

Given the young age of the State University System, with five of the nine institutions having been started after 1964, the fact that one-third of its universities now are fulfilling this statewide role is an educationally and economically sound situation for the near future. This pattern is comparable to the successful differentiation of institutional roles developed in states such as California, Michigan, Wisconsin and North Carolina, which have recognized the importance of differentiated missions in achieving quality and the focused cost-effective use of resources.

In the independent sector, the University of Miami offers options for advanced education to Floridians across the state. These alternatives are an important state resource and should be maintained and utilized. The achievement of appropriate regional access to advanced graduate programs at public rates can be consistent with the maintenance of a strong University of Miami.

Future Needs

As Florida grows over the next 10 to 20 years, new needs will emerge, which may require additional programs. This possibility, however, should be linked directly to not only specific statewide or regional needs, but also to the question as to whether sufficiently high quality is present in undergraduate and master's programs as a foundation on which to build advanced graduate programs. An important consideration is the ability of the State to finance such development while maintaining or strengthening existing programs.

Selective Growth of Doctoral Programs

A key principle, moreover, is that further growth in advanced graduate programs at all universities should be gradual, controlled, selective, responsive to demonstrated student demand and carefully planned. Any new programs should meet national standards for excellence and build distinctiveness into institutional roles. Proposed programs at any university should meet the following criteria concerning the establishment of compelling need:

Criteria for New Programs

- a. Clear documentation of need and evidence that existing programs cannot meet the demonstrated needs.
- b. Sufficient current and projected employment opportunities for graduates with the doctorate.
- c. Sufficient current and projected student demand, as shown by the number of master's degree holders desiring doctoral study and,

- when available, the number of qualified students who have sought and been denied admission to doctoral study.
- d. Evidence that a master's degree program is insufficient to meet the needs and why doctoral study is therefore warranted.
 - e. The impact of the proposed program on similar programs of acceptable quality in other public or independent institutions.
 - f. The extent to which a real difference can be established between the proposed program and any existing programs addressing similar needs.
 - g. Where appropriate, a plan should be developed to coordinate the new program with similar programs in other public or independent institutions.
 - h. The availability of sufficient state resources to support the proposed program.
 - i. The possibility of cooperative or joint programs meeting the needs more cost-effectively.
 - j. The ability and strength of the institution and its faculty to support doctoral study.
 - k. The ability of the program to stand freely or to require other doctoral programs for support.
 - l. Identification of the relationship that the proposed program may have to a special institutional role or strength which has been established and recognized.

**Growing
Importance
of Applied
Programs**

Advanced graduate programs in certain fields have the potential to meet specific needs of communities while serving to expand the knowledge of faculty and students. Some programs can promote close linkages of faculty and students with the professional needs of social, governmental, business and industrial groups. In these programs, the skills of professionals and the effectiveness of community organizations are enhanced by close ties with university faculty and students. Moreover, this arrangement provides faculty and students with a laboratory for expanding knowledge in settings that enrich the academic environment. These relationships should be encouraged.

**Urban
Settings**

Advanced graduate programs in disciplines that lend themselves to such relationships may be suited particularly to universities in urban areas. Professional fields such as business, education, engineering, creative arts, public affairs, social work and certain sciences are areas in which the needs of professionals and their profession may correlate with the needs of faculty and students for research and study. Because these professions are concentrated in urban areas, new applied programs may be located, most appropriately, at nearby universities.

**Guidelines
for Con-
sidering
Applied
Programs**

13. *Doctoral programs with applied emphasis should be considered only when community needs are compelling and when there is a planned university commitment to apply resources directly to meet these needs through close community-university relationships. In addition to meeting the above criteria for adding new programs, universities should have to characterize in specific, measurable terms the nature of the planned linkage between the academic program and the non-academic professional setting. The program then should be evaluated on the degree to which these relationships are developed.*

14. Need and student demand for applied doctoral programs should be addressed on the basis of the five DOE regions—Panhandle, Crown, West Central, East Central, and South.

15. Existing programs at independent universities should be recognized in planning to meet the needs for the applied doctoral programs in each region. As part of the reviews of proposed new doctoral programs, the Board of Regents and the Commission should consider the possible benefits to the State and region—in terms of relative cost, quality, access and accountability—of contracting for existing programs in the independent sector to meet identified needs.

Regional Needs

Two of the five major regions of Florida lack a public university with a range of doctoral programs: East Central and Southeast Florida. These regions also are characterized by large and growing populations.

In the past, programs serving statewide needs and not located in these areas have been adequate to serve these regions. At some point the growth in population and the concentration of industries whose personnel and research demands cannot be served by geographically remote universities will warrant the major cost of inaugurating advanced graduate programs to serve regional needs.

East Central Florida

East Central Florida is a rapidly developing center for high technology industry and business. This development is accompanied by needs for support from related advanced educational programs in science, engineering and business. A select number of advanced graduate programs at the University of Central Florida, Florida Institute of Technology and other independent institutions should be developed to the extent they would meet directly the long-term needs of this area.

Southeast Florida

An imbalance exists in Southeast Florida which embraces nearly 40% of the State's population and is served by two public universities which do not offer advanced graduate programs. The emergence of Miami as an international center of trade, banking and medicine and the continued growth in Palm Beach and Broward Counties of technological industry and business present special needs. In addition, the diversity and numbers of special population groups in this region pose challenges for postsecondary education.

The needs of Southeast Floridians warrant the regional presence of publicly-supported advanced graduate and professional programs in a range similar to that found in a major public university. Both FAU and FIU should be authorized to develop distinctive programs tailored to fill unsatisfied legitimate demands of individuals and institutions in the region. Such development should take into account existing programs at the University of Miami, which the State should recognize and utilize when appropriate.

The two public universities, the University of Miami, and other independent institutions can all prosper in such an arrangement. The enormous volume and variety of Southeast Florida's needs would allow each institution to develop its own unduplicated areas of strength and distinctiveness. Over the next 15 to 20 years the universities have the potential to develop individual programs, which when considered together, would match the services offered in a single public university

offering a wide range of programs. Southeast Florida will benefit not only from improved access to the wide variety of advanced graduate programs but from the quality of programs being offered by universities which focus on distinctive strengths.

Development and use of advanced graduate programs should be coordinated among the various universities—public and independent. Programs should not be duplicated and, further, should be related to the specific strengths of the different institutions. The definition of these strengths should precede the development of the various public programs. As with all new programs seeking public support, they should be assessed on the basis of the criteria listed above related to demonstrated need.

A coordinated approach to the development of advanced graduate programs in Southeast Florida will occur only with strong initiative from the State and region. Both past and present efforts to plan higher education programs in this region have uncovered a lack of consensus among the various universities on how to coordinate their development to serve regional needs with affordable investment. The resulting uncertainty and conflict are such that the individual universities are reluctant to plan for coordinated growth which entails any sense of limitation. In part, this reluctance might be traced to the past experience and expectation that few if any additional resources would be forthcoming to support public doctoral programs in Southeast Florida. This pattern and projected future has not encouraged universities to work together but instead causes intense competition for the little funding which might become available.

While the State should make clear that it will provide additional resources for public advanced graduate programs in Southeast Florida, the condition for receiving these funds should be the existence of a plan detailing how each of the three universities, including the University of Miami, will coordinate its existing and developing programs with the others. These plans should contain commitments from each institution to certain areas of academic and professional strength and development through the year 2000. These fields of strength in each institution should not be duplicative but be supportive when taken together.

The commitment to coordination to the extent required is difficult to achieve. In a current atmosphere which discourages voluntary cooperation, firm, positive initiative is needed to develop the exact nature of a structure to coordinate most effectively the offering of advanced graduate programs at public tuition rates.

To provide this initiative, the Commission will develop recommendations on a coordinated structure to be made to the State Board of Education and the Legislature by November, 1983. The Commission should determine the current needs of the region for advanced graduate programs and a process for identifying those emerging in the future. It should indicate the most effective way to coordinate and to develop an appropriate set of public advanced graduate programs to meet the needs of the region. Existing public and independent universities should be included in the recommended structure.

The Commission will consider a full range of options for coordination. While alternatives that maintain current institutional identities may be preferable if distinctive roles could be worked out for each, the

possibility of merger to ensure coordination and even the public acquisition of the University of Miami should not be excluded. Other alternatives include the selective support through contracts or full subsidy of selected strong programs at the University of Miami or the acquisition of selected programs from the University of Miami and their transfer to Florida International University or Florida Atlantic University. The possibility of developing joint programs with genuine sharing of students, faculty, equipment and other resources should be explored. The State could support joint programs between public and independent institutions by contracting with the independent institution to reduce its tuition to public rates, thus encouraging dual enrollment.

Cooperative Programs

In all regions of the State, cooperative programs offer great potential for meeting regional needs, particularly in doctoral programs of an interdisciplinary and applied nature. It would appear highly cost-effective and academically valuable to combine the faculty and disciplinary strengths of different institutions to address common problems. As the needs for these applied programs grow, the organization of universities along traditional disciplinary and departmental lines should be relaxed to support combinations of programs that address societal problems more effectively. This approach will make the best use of available state support and the existing strengths of the universities, and provide a greater range of faculty and students with access to doctoral programs.

16. Cooperative programs at the doctoral level, particularly within regions, should be encouraged and supported.

Review of Existing Doctoral Programs

Existing doctoral programs can and should be strengthened, when warranted. When demand is slight, support for weak programs should be discontinued.

17. Existing doctoral programs should be reviewed on a regular schedule to determine if need, student demand and available resources support their continuation. These evaluations should be related to the program reviews recommended in the Plan's section on Financing. In conducting these reviews, the Board of Regents should take into account the following criteria:

Criteria for Program Review

- a. *State needs and priorities as established jointly by the State Board of Education, the Legislature, and the post-secondary education community.*
- b. *Manpower needs.*
- c. *Student demand.*
- d. *Quality and characteristics of students.*
- e. *Student outcomes, including results of graduate follow-up studies.*
- f. *Productivity of program in terms of students enrolled, graduates, and support of other programs in the institution.*
- g. *Faculty quality and productivity.*
- h. *Quality and accessibility of library resources.*
- i. *Quality and adequacy of other resources, including equipment, space and non-academic services.*

- j. Cost of the program, including faculty salaries, equipment, and student aid, calculated as direct and full costs.***
- k. Additional resources needed to accomplish specific improvements.***

COORDINATION AND COOPERATION IN USING RESOURCES

New View of Post-Secondary Education

In the past decade, Florida has made much progress to meet evolving needs. However, its postsecondary educational structure and outlook are still shaped within a narrow range, and therefore realize only a small portion of the potential presented by its resources.

Diverse Needs

Florida's approach to postsecondary education must be altered and expanded if new kinds of needs are to be met. Because these needs are both broad and complex, we must move toward comprehensive as well as an intense use of the State's resources. No single segment of education—formal or informal—can fully meet the needs alone. Nor can the educational system by itself. A combination of the educational system and state resources is necessary.

Use of All Educational Resources

All resources should be enlisted—public, independent and proprietary institutions, libraries, the media, professional associations, unions, the military, business and industry, social and cultural agencies. Only through a process of sharing can we expect to provide postsecondary educational opportunities in the amount, diversity and quality we seek.

Coordinated Resources

A major concept of the master plan is to build a more unified, cooperative and coordinated system with effective linkages among the various segments, and between postsecondary education and the community. Postsecondary education should be a leading partner of the various agencies of the community or region that are mentioned above. Both sides will benefit. The community will gain from the expertise of faculty and the intellectual energy of students; postsecondary education will benefit from the merger of academic theory with practice. Cost efficiency and educational effectiveness will be enhanced.

Strong Linkages Between Education and Community

These linkages can come about through existing structures. Sweeping structural changes are not necessary. The State and the systems of postsecondary education, given time, are capable of developing arrangements for efficient and effective education and better use of limited resources. Development of cooperation is critical and deserves a high priority. Questions of structural mergers and unification may arise when cooperation breaks down. But even then, any study of a specific merger proposal should also look at ways to resolve the perceived problem without formal structural change.

Importance of Cooperation

In our increasingly mobile and rapidly changing society, educational effectiveness will depend on the success with which people can move between education and the workplace. The importance of effective transfer from the community colleges to universities is especially critical in Florida since community colleges are greatly responsible for lower division instruction. Such transfer has been quite successful and is so recognized nationally. But other forms of cooperation, such as joint faculty planning across different sectors and the sharing of facilities, equipment and faculty between postsecondary education and the community, are not as frequent or as far reaching as they should be. Cooperation among educational resources will be easier when institutions collectively start to respond to the needs of a shared local or regional service area.

**Develop-
ment of
Effective
Linkages**

Many specific actions appear when we look at areas that lend themselves to linkages of a cooperative or coordinating sort. The Commission offers the following list and will discuss each one:

- a) Effective cooperation between K-12 and postsecondary education.
- b) Effective cooperation between community colleges and universities.
- c) Effective Regional Coordinating Councils, to coordinate vocational education, adult education and Community Instructional Services (CIS).
- d) Effective use of educational technology.
- e) Effective cooperation with independent and proprietary postsecondary education.
- f) Development of a structure for regional coordination and cooperation.
- g) Linkage of postsecondary education with Florida's economic development.

**Effective Cooperation Between K-12 and
Postsecondary Education**

To improve, academic and vocational programs need students who are better prepared to profit from a more demanding educational environment. The Commission supports the State University System's recent call for more rigorous academic content in secondary school courses and anticipates similar recommendations of the Governor's Commission on Secondary Schools.

Important improvements will come from cooperative actions by postsecondary education and the K-12 sector, particularly in two critical areas: improved teacher education and a more coordinated curricula.

Improved Teacher Education

**Emphasis
on
Academic
Rigor**

Teachers must be better prepared to teach the more rigorous coursework and basic skills that will be required in the schools' programs. Better teacher education programs are crucial in improving the quality of teaching in the K-12 system.

- 1. More work in subject areas should be required in pre-service programs as well as more emphasis on reading, writing, speaking and mathematics. Certification standards should be strengthened to ensure that all teachers will be able to teach the basic skills, directly and by example, and will have mastery of specific subject areas.*

**Inservice
Education**

Improvement in student performance in the K-12 schools will depend greatly on the enhanced effectiveness of teachers already in the system.

- 2. Current inservice education efforts aimed at improving the ability of teachers to teach writing, speaking, reading and mathematics should be maintained. Particularly in science*

and technological education, the teachers' knowledge of these subject areas must be constantly updated. Teachers must become competent in the instructional use of computers and this should be a priority for inservice education. The merit of university faculty members assisting the school districts in inservice education should be recognized in promotion and tenure decisions. In addition, Teacher Education Centers (TECs) should be utilized as resources for the improvement of teachers identified as academically deficient, and the Commissioner should provide for the periodic review of TECs, utilizing external consultants and criteria available from national organizations.

**Higher
Esteem and
Rewards**

Teachers' salaries in Florida are low, compared to those in other states. Salary levels must be competitive, especially in the areas of science and mathematics, to attract and keep high quality teachers. Good performance will earn teachers the higher respect once attached to their profession.

- 3. The Commission strongly supports the State Board goal of providing salaries which are in the upper quartile nationally.*

**High
Quality
Prospective
Teachers**

In part because of the low salaries, few superior students enter into teacher education programs. Proper financial and personal incentives for prospective teachers will attract more highly qualified applicants to teacher education programs. Moreover, it is particularly important that highly qualified minority students be encouraged to enter the teaching profession. The pool of applicants will improve with the success of current efforts to improve instruction and articulation in K-12 and postsecondary education.

- 4. The current state policy of limiting admissions to approved teacher education programs to students scoring above the 40th percentile on standardized admissions tests (s. 240.529(1), F.S.) should be continued until alternative methods are validated as improving the quality of teachers entering the profession. At the same time, the relationship of standardized admissions test scores to successful, quality classroom teaching should be carefully analyzed by colleges of education and the results reported to the State Board of Education by September, 1983. When the results of these studies are known, if the policy of limiting admissions in accordance with standardized test scores is found to be an effective method of enhancing the quality of teaching in Florida, then consideration should be given to raising further the level of scores for admission to approved teacher education programs.*

- 5. The Legislature should create and fund a teacher scholarship program to encourage high caliber students to enter teaching as a profession. Four-year scholarships should be*

awarded to 200 students annually on the basis of academic achievement and demonstrated leadership qualities. Among other possibilities, a designated portion of the Academic Scholars Fund (s. 240.402, F.S.) could be set aside for teacher education students.

- 6. Periodic news of projected shortages in the teacher supply should be an impetus to increase recruitment, instead of lowering admission standards.*

The growing interest in improving the effectiveness of teacher education programs has led to a recent statute creating a Joint Executive and Legislative Task Force for Teacher Education Quality Improvement. The Commission will participate in this study through direct membership on the Task Force and through the Commission's close administrative involvement. Since this study will address many of the critical issues in the improvement of teacher education, the Commission will withhold further recommendations until this Task Force completes its work.

Program and Faculty Cooperation

**Critical
Link Be-
tween High
School and
College**

Curriculum and faculty activities between the schools and colleges should be better coordinated. Postsecondary education must redefine what is to be taught and learned, particularly in the first two years of college. Secondary schools will then require higher levels of study to prepare students for the more rigorous and newly-defined college curriculum. Both levels should raise standards. Mastery of basic skills and the liberal arts and sciences requires a continuum of sequential studies from high school through the first two years of college. Courses should reinforce and build on the previous levels. The knowledge that basic skills will be demanded in college should increase the emphasis on such skills in high school. In addition, faculty in colleges, universities and high schools should collaborate to plan these efforts, thus helping students to adjust better to postsecondary education. Special attention should be given to qualified minority students who wish to continue with higher education to ensure that they receive proper counseling in high school.

**State-Level
Policy**

The following state-level policies for improving the link between colleges and schools are recommended:

**General
Education**

- 7. The State Board of Education should develop policy on the purposes, outcomes, scope and sequence of general education in public high schools. This should be done by working closely with Florida's public schools, colleges and universities.*

**Articulation
Agreement**

- 8. An articulation agreement should be established between K-12 and postsecondary education modelled after the current agreement between public community colleges and state universities (State Board Rule 6A-10.24). As one possibility, the Articulation Coordinating Committee created by State Board Rule 6A-10.24 (14) should be expanded to include members from the K-12 sector. As a start, this agreement should address the coordination issues in general*

education and the problem of students who have taken vocational courses in high school being required to retake similar courses in community college occupational programs. The statewide course numbering provision added to Section 229.551, Florida Statutes, during the 1981 legislative session (Chapter 81-193, Laws of Florida), to extend the system to all postsecondary vocational programs and courses should assist this effort.

Specific cooperative practices should be developed on regional and local levels. The Commission makes the following recommendations:

**Regional
and Local
Cooperation**

9. Community colleges and high schools in particular should share facilities, equipment, and faculties. For example, the use of educational television programs extending community college offerings, especially in math and science fields, to sparsely populated areas should be expanded. As another example, computer-assisted self-paced instructional technologies, such as RSVP at Miami-Dade, should be shared with public schools. Given the growing importance of computer literacy, K-12 students should be allowed to use computer terminals at community colleges on a space available basis when such equipment is not available in the school system. This would be particularly helpful in providing computerized career information (such as CHOICES) in the most cost-effective manner. Computer literacy, which will be essential in the future, can be enhanced through cooperative computer guidance programs and computer-assisted instructional programs. As an example of cooperation, school buses could be used to transport public school students to community colleges during periods when computer facilities may be underutilized.

Dual Enrollment

10. Cooperation between community colleges and public schools fostered by the dual enrollment concept should be encouraged and expanded, but not to the detriment of existing Advanced Placement courses and other advanced offerings in secondary schools.

**Faculty
Sharing**

11. Faculty sharing between all levels of education should be encouraged. University reward systems must recognize the importance of service to the schools. Current community college efforts to share faculty with high schools in sparsely populated areas should be expanded.

**Student
Follow-up**

12. Student and faculty performance and the curriculum will be enhanced greatly by fuller sharing and analysis of student follow-up information.

**Articulation
Research**

13. The Department of Education should study the feasibility of developing an articulation research system to track the performance of students, by course, through Florida high

schools as well as community colleges and state universities. Such research, in conjunction with competence assessment procedures, should provide a basis for curricular evaluations and revisions.

Counseling

14. *Postsecondary institutions should provide the most timely information available on financial aid and career counseling to K-12 counselors to facilitate transition between the two sectors.*

Disadvantaged Students

Community colleges and universities should try to motivate underprivileged students to take advantage of postsecondary educational opportunities. Because minority students often come from families who have not had any postsecondary education, they may not realize the academic preparation needed for admission, the financial demands that must be met and the benefits of higher levels of education.

**Improved
K-12
Preparation**

Existing summer pre-college experience for entering freshmen and other secondary students should be augmented by specific programs. Such programs should be designed to help disadvantaged students meet the higher admission standards the Commission believes are vital to the improvement of postsecondary education in Florida.

Projects could include:

**State-Level
Coordina-
tion**

- a) Helping schools and community agencies devise special programs for pre-school and early grade children;
- b) Lowering dropout rates caused by poor training, low motivation, or poverty;
- c) Preparing teachers, counselors and school administrators to serve schools in poverty areas;
- d) Sponsoring special programs for community leaders to clarify minority group problems and design community plans of action;
- e) Providing state-level coordination to assist institutions to plan and carry out specific programs such as:
 - 1) Conducting special pre-school classes in downtown and rural facilities, tutoring early school pupils, and supplementing existing teaching, administrative and counseling staffs in elementary schools (to be done by students in schools of education).
 - 2) Providing a vision of campus life through weekend visits during the academic year for groups of disadvantaged students.
 - 3) Establishing resident summer programs on campuses during the summer months, where disadvantaged students can obtain several weeks of remedial education and recreation.
 - 4) Operating mobile counseling centers that travel to rural and inner city areas with a team of faculty, professional staff, and student specialists to acquaint residents with special programs.

- 5) Conducting inservice programs so that classroom teachers can acquire new understanding about the problems of the disadvantaged.
 - 6) Providing workshops in which teachers who have been found particularly effective with minority students share their skills and experience with other teachers.
- f) The Department of Education should provide leadership through a coordinator whose primary responsibilities would be to assist institutions and local communities in formulating outreach programs and to monitor their progress.

**Key Role
of Post-
secondary
Education**

In summary, postsecondary education holds the key to the improved preparation of students in the K-12 schools. Increasing the demands and standards of postsecondary education's own curriculum will signal to the K-12 sector that students must be better prepared to succeed in college. In the State of California, the declining preparation of high school students was traced to the earlier relaxation of standards in the colleges, which led to a lowering of standards in K-12. To reverse this trend, postsecondary education must demonstrate that more will be expected of students. This would also break the current unproductive cycle in which each level of education accuses the other levels of failure to prepare students better. The best strategy is to establish higher standards at all levels, beginning with postsecondary education.

**Effective Cooperation Between
Community Colleges and Universities**

**Prevalence
of Student
Transfer**

The effective transfer of students from community colleges to universities is very important in Florida. Compared to other states, a much higher percentage of Florida students who earn the baccalaureate degree begin in a community college. Florida's two-plus-two system depends on the continuity of a student's academic experience not being interrupted by transfer. Mechanically, present procedures for the smooth and educationally effective movement of students from one sector or program to another are sound. They are based upon formal articulation agreements and advisory processes. On a substantive level, however, articulation is not as effective as it should be because faculty from the different segments too often do not communicate or jointly plan programs. Under these conditions, the continuity of student academic programs suffers and the effectiveness of the two-plus-two system is weakened.

**Importance
of Effective
Articulation**

Teaching and learning are more effective when faculty and students understand the full scope and learning sequences of academic programs. Learning is enhanced also by the sequential evaluation of a student's strengths and weaknesses, and the use of this information as a student progresses through a program. When transfer is involved, only faculty can see to it that the scope, sequence and evaluation of student programs are made whole and understandable.

The need for better continuity in academic and occupational programs for students who transfer poses a most serious challenge for

Florida's two-plus-two system. On no other issue is concerted action required more. The fundamental goal is for faculty from community colleges and universities to communicate and collaborate effectively about their mutual programs and students.

15. *Faculty and staff in community colleges and universities should be encouraged to take the following actions:*
 - a. *Joint planning of academic programs.*
 - b. *Follow-up studies of the academic, intellectual and social development of transfer students.*
 - c. *Use of student follow-up information in community college and university program decisions and student advisement.*
 - d. *Clarification of academic expectations and standards at points of transfer and periodic evaluation of the validity of these standards.*
 - e. *Development of joint data on the needs and demand for each level of programs that involve career ladders in which typically the community college provides the first level of education and the university the more advanced.*

**Focus on
Institutional
Pairs**

The linkages between community colleges and universities will not be strengthened without certain structural and procedural changes and initiatives which support the above actions. First, the main focus for improving articulation should be at the institutional level in which a specific community college and university work out details concerning their common interests. A large majority of students from any one community college transfer to one of two specific universities, thus making it cost-effective for a community college to focus on faculty and program linkages with a limited number of universities. The institutions in these common-interest groups often fall within the same geographical area, supporting a regional approach to strengthening linkages.

16. *Cooperation between institutions and their faculty members is best carried out on a regional level in which a small group of institutions collaborate in recognition of natural and common interests, such as student transfer patterns, geography, past cooperative practices and similar programs. The following initiatives should be explored as ways to build cooperation:*
 - a) *local consortia or other institutional arrangements.*
 - b) *organized faculty and professional staff networks.*
 - c) *periodic meetings among faculty in similar disciplines to share teaching approaches and subject content.*

**Program
Focus**

Ultimately, the success of articulation efforts are judged by how well the community college and university components of a common program fit together to the student's benefit. There are growing instances of two institutions defining specific program agreements on a course-by-course level, resulting in full program contracts. These examples should be the models for increasing articulation in institutional groupings.

17. The primary emphasis for improving articulation should be on the development of full curricular agreements (course-by-course detail) for specific programs in pairs of institutions.

Incentives to Encourage Cooperation

The State should provide incentives to support faculty and staff actions that strengthen linkages between community colleges and universities. The most meaningful incentives are based in state-level financing and evaluation procedures and rewards.

Direct Financial Support

One incentive is direct state funding of special program articulation projects carried out jointly by faculty from different segments.

18. The State should establish a special fund to reward institutional creativity and initiative in fashioning workable local solutions to the articulation problem. Funds should be disbursed according to criteria defining the nature of institutional and faculty and staff cooperation needed to strengthen academic program continuity for transfer students. These criteria should be recommended by faculty and staff and the funds granted on a competitive basis to institutional groups according to those guidelines.

Program and Budget Review

A second incentive is found in rewards for positive articulation efforts identified through program review and the use of evaluation results in budget decisions. In a later section of the Plan, the Commission recommends that each system of postsecondary education strengthen its procedures for conducting periodic evaluations of programs to identify both the qualitative and productive status of major programs and the effectiveness of current levels of resources. Moreover, the information should be used in budget requests, particularly in justifying the resources proposed for quality improvement. As each system undertakes these reviews, the programs and the issues that have cross-sector implications should be addressed from the dual perspectives of community colleges and universities.

19. For programs in which the effective relationship between community colleges and universities is important, the reviews conducted by the community college and state university systems should address fully the effectiveness and improvement of articulation. Procedures should be developed which will bring the two sectors together at some point to identify the cross-sector issues to be addressed, to examine jointly the results of the reviews and to work toward mutual recommendations for improvement. These recommendations should be used in program and budget decisions at state and institutional levels.

Effective Regional Coordinating Councils

Importance of Effective Coordination

In vocational and adult education, better articulation in student programs and improved coordination of the different educational providers are quite important. Articulation and coordination are vital to effective vocational and adult education because each form of education is offered by both school districts and community colleges.

Strengthening Articulation and Coordination

There are several ways to improve articulation and coordination. Most ways have been or are being tried in other states, including completely separate vocational-technical systems, comprehensive high schools, and comprehensive community colleges. In Florida, with educational services split between school districts and community colleges, many believe a more unified structure is a better way to produce sound articulation and coordination.

There is strength in Florida's current structure for providing vocational education, adult education and community instructional services. While seemingly disjointed, the structure allows different State regions to take advantage of the unique strengths of the delivery systems which have developed over the years. Some school districts and community colleges have strengthened cooperative relationships; in other instances, each has agreed to concentrate on its own areas of strength. Student articulation and resource coordination must be improved. The current structure has the capacity for such enhancement.

Regional Coordinating Councils

20. Florida should look to the 28 Regional Coordinating Councils to lead regional efforts to build greater cooperation between school districts and community colleges.

Responsibilities of the Councils

By State Board Rule, it is the responsibility of the Regional Coordinating Councils to review the total vocational education, adult general education, and community instructional services programs being offered in the region, to make such recommendations as are necessary, to encourage the development of needed offerings or changes in existing offerings and to avoid unwarranted duplications. The councils may perform the following duties (as taken from SBE Rule 6A-6.67):

- a) Review and recommend adjustments of existing programs, activities, and services, including counseling that will better meet the assigned responsibilities of each district.
- b) Review and recommend agreements between boards, to provide coordinated and articulated vocational education, adult general education, and community instructional services programs to meet the educational needs of all residents in all communities in the district.
- c) Review and make recommendations concerning long-range (6 years) objectives for the school district and the community college district and make such recommendations as needed so that each plan provides for coordinated and articulated programs without unnecessary duplication.
- d) Review data in support of proposed programs, recommend to the appropriate board approval or disapproval of the program and, if necessary, recommend the assignment of responsibility to the appropriate district in accordance with specific local cooperative agreements and policies of the State Board of Education.
- e) Review such other aspects of the programs and make such recommendations as are necessary to provide an efficient, well coordinated and comprehensive vocational education, adult general education, and community instructional services program.

Stronger Councils

Statewide performance of the Regional Coordinating Councils is uneven; many positive examples are mixed with instances of virtual

inactivity. Also, Councils have limited authority to enact their recommendations.

21. *The statutory and administrative authorities and specific responsibilities of the Councils should be reviewed and strengthened.*

**Clearer
Duties**

Several specific modifications would increase the Councils' abilities to improve articulation and coordination. These modifications should be used in upgrading the Councils' responsibilities. For example, the Councils are involved, in varying degrees, in planning for vocational education, adult education, and community instructional services. Recent efforts in vocational education have involved the Councils more in *local* planning. For community instructional services, the Councils already are mandated to conduct needs assessments and to recommend program responsibilities among different sectors for meeting the identified needs.

22. *The Councils' role in planning should be strengthened by the assignment of specific responsibilities for needs assessment and for allocation of program responsibilities for vocational education, adult education, and community instructional services.*

**Appeals
Process**

One weakness of the Councils is the lack of an appeals or grievance process by which a provider may have its case reviewed and the dispute resolved by a higher authority. This is important particularly when school districts and the community college do not agree on who should offer a program. Unless they can appeal to another authority, the Councils may have to make decisions which maintain relative harmony among all sectors, instead of ensuring that all needs are being met by the most appropriate provider.

23. *An appeals process should be established in the Commissioner of Education's Office to consider grievances arising from program and resource allocation recommendations of the Regional Coordinating Councils.*

**Lay Mem-
bership**

The Councils are composed primarily of educators, which include the school district superintendent and the community college president. The presence of lay members adds stability and perspective, which are valuable in assessing needs and assigning programs.

24. *Lay members representing a broad area of community interest should be added to all Councils.*

**Participa-
tion by
Business
and In-
dustry**

The presence of business and industry officials on the Councils would broaden perspectives in identifying regional needs. Both school districts and community colleges have business and industry advisory bodies for each of the educational program areas.

25. *Business and industry officials should be added to the Regional Coordinating Councils as part of the lay membership and, in the interest of coordination, these officials*

should be selected from among the members of the current district and community college business and industry advisory groups.

Role of Chief Educational Executives

Effectiveness is related to the participation of the top executive officers of the school districts and community colleges.

26. Top officials from each sector which provides services in vocational education, adult education, and community instructional services should be participants in the work of the Councils.

Faculty Advice

Student articulation is an important goal. But this objective can only be fully met if faculty from different sectors plan together. The efforts of some Regional Councils to promote articulation by bringing together faculty are laudable.

27. Regional Coordinating Councils should adopt student articulation as a primary goal and should explore the use of faculty committees to advise the Councils on these matters.

University Involvement

University involvement in the work of the Councils has been limited despite the fact that university continuing education activities and Community Instructional Services (CIS) programs can be quite similar. The possibility of contracts between school districts, community colleges, and state universities for the provision of CIS or similar programs should be explored.

28. University continuing education administrators should be involved in the work of the Councils, particularly those in their service areas.

29. Regional Coordinating Councils should guarantee that the educational needs of adults are met by the most appropriate provider. The institution whose mission most closely reflects the nature and level of the needed programs should provide the instruction.

Evaluation of the Councils

In the future, these Councils will have a vital role. Therefore, it is important to develop an evaluation process that will assure that they are indeed meeting their assigned responsibilities for vocational education, adult education, and CIS. Past evaluation visits limited to the CIS role of the Councils were effective in improving Council performance.

30. The performance of the Councils with respect to their vocational education, adult education, and CIS responsibilities should be evaluated periodically by the Department of Education. The criteria for evaluation should include the extent to which needs are being met and the lack of unnecessary program duplication between school districts and community colleges. The Department should also provide technical assistance and support to those Councils in need of improvement.

Effective Use of Educational Technology

Potential of Educational Technology

Modern technology can strengthen learning and give cost-effective access to a wide range of educational resources. Technology offers new instructional possibilities and gives greater access to the best elements of postsecondary education. Its role is already significant but has not even come close to approaching its potential. While new computer and telecommunication technologies probably will not replace conventional teaching styles and delivery systems in the near future, the application of technologies to address specific administrative and instructional objectives is increasing. Knowledge and training in the use of computers are basic to literacy and should be incorporated into the K-12 program throughout the State.

New Needs Met Effectively Through Technology

Educational technology will be of particular value in meeting many of the needs for postsecondary education over the next two decades. For example, the demand for more career education and personal enrichment by older students and the continuing education needs of practicing professionals may be met by bringing education to these people through technology.

Florida should move swiftly to realize the great potential of educational technology to improve access and quality in postsecondary education. While the use of educational technology will increase, major hurdles remain, not the least of which is the continuing resistance by some faculty members and administrators. Only with their understanding and cooperation can the promise of technology be fulfilled.

Role of Faculty

31. Faculty, professional staff, and administrators should re-examine promotion and tenure procedures to ensure that efforts to use educational technology are recognized and rewarded.

32. Staff and students should understand computers and other technological equipment. Students should receive computer literacy instruction as a discrete subject and as a by-product of interaction with computer-based coursework. Faculty and staff members should receive training in the use of educational technologies.

Coordination of Educational Technology Resources

Because of the high cost of the latest educational technology, coordinated use is essential. The various offices and agencies of the State have diverse needs for education, information, data-processing and communication. The Florida Information Resource Network, when completed, will connect the sixty-seven school districts with instructional and administrative computing capabilities, public community colleges, and state universities in a statewide data communications network. Other State agencies also have extensive communication hardware in place. To guarantee the best use of capital resources, Florida should build on past investments and ensure that further growth will allow for cooperation and coordination among all users of educational technology. The State must bring together all agencies that have actual or potential concerns in this area to map strategies for the future.

**Statewide
Conference
on Educa-
tional Tech-
nology**

33. *A statewide invitational conference should be convened under the auspices of the Department of Education (DOE) to discuss ways to ensure interagency consultation and policy development for educational technology. Representatives of the Executive and Legislative branches of government, state agencies, educational institutions, public and commercial media operators, and private business and industry should be invited to attend. The conference should lead to recommendations for the creation of mechanisms within the State to predict, evaluate, monitor and coordinate the needs for modern educational technologies. Such mechanisms might include the creation of a single DOE office to coordinate all aspects of educational technology development on a statewide basis, or the creation of a statewide council on educational technology to act in an advisory capacity to the State Board of Education.*

An important goal of the conference should be the identification of ideas for model programs. Examples of such programs include the use of educational technology for inservice teacher staff development under the auspices of the Teacher Education Centers, interinstitutional sharing of courses and faculty to help combat the shortage of engineering faculty, the use of computers for remediation, and the delivery of continuing professional instruction for adults.

**Cable
Television**

Cable television is a powerful vehicle for providing education, but uncertainty exists about the legalities and policies affecting its use by postsecondary education.

34. *The State should formulate clear policy to establish education's relationship to the cable industry. To do this will require cooperation among the Departments of Education and Commerce, the Public Service Commission, and the State Board of Education and other appropriate agencies. In addition, local administrators of postsecondary education (including administrators of hospitals, libraries, non-profit agencies, and other community educational agencies) should develop consortia to identify their regions' educational needs for cable television and to serve as counsel to city and county governments on cable franchising.*

**Commit-
ment to
Technology**

Postsecondary education is often reluctant to consider educational technology as an alternative to traditional delivery. The State should make a clear commitment to take full advantage of technology whenever educationally and economically sound.

35. *State policy should be developed which prohibits expansion of existing programs or implementation of new ones in public institutions until it can be shown that the same objectives cannot be met more efficiently and effectively through the use of educational technology. In effect, the*

alternative of using educational technology should be included in all institutional and sectoral program reviews.

Effective Linkages With Independent and Proprietary Postsecondary Education

Value of Independent Postsecondary Education

Independent and proprietary education is crucial to the maintenance of diversity and choice in postsecondary education. These non-public sectors also offer a substantial measure of protection for and models of academic freedom and institutional autonomy. Strong independent institutions are vital to an effective system of education after high school and to a balanced set of options for students and faculty. Economic and demographic trends are threatening independent postsecondary education, and such threats are likely to increase in the future.

Linkages with the Independent Sector

The State and students can gain much by the effective inclusion of independent postsecondary education in Florida's educational structure. The challenge is to obtain a significant degree of cooperation between the public and independent sectors. Now is a propitious time to examine ways in which the State can strengthen linkages with independent postsecondary education to the mutual advantage of both.

Contracts and Student Financial Aid

The policy and program decisions of independent institutions should remain the responsibility of their Boards of Trustees and the Commission's recommendations are not meant to infringe upon the customs and practices of these Boards. Of course, independent institutions are responsible to the State for the proper fiscal accounting of all state funds received, and for fulfilling all contractual agreements.

The State can and does provide direct or indirect financing through contracting or student aid. In the past, such financial support has been economical. The State has spent fewer dollars on financial aid for students in independent colleges and for contracts with these institutions than it would have provided to public colleges to educate the additional numbers of students. Also, the diversity of resources made available and the resulting enhancement of student access and choice met important State goals.

The State Board of Education, acting upon recommendation by the Postsecondary Education Planning Commission, is authorized to contract with accredited independent institutions to provide educational programs and facilities to meet needs unfulfilled by the state system of public postsecondary education. Based upon the principles of efficiency, effectiveness and economy, the State Board may contract for programs or facilities, at least equal in quality to state programs or facilities, if state needs can be met at lower cost or more effectively. The contracting option to meeting needs is student-centered in that it provides effective access at public tuition rates to programs at independent institutions.

Contracting offers several advantages to the State in meeting needs for postsecondary education. It is economical in that, normally, a contract does not have to support fully the program but pays only the difference between private and public tuition and is tied to a specific number of students to be served. Thus the State is able to take advantage of the substantial past investment made by the independent institution to develop the program and the fact that the full cost of the program will still be covered largely by non-state sources.

Contracting enables the State to respond promptly and effectively to needs. Moreover, the annual renewal condition of a contract allows the State to maintain flexibility to adjust levels of services to reflect changing volume of need or a more effective or efficient response from an alternate source. This needs-focused approach can provide financial incentives to encourage and make practical cooperative arrangements between public and independent institutions. By eliminating the tuition gap for students, contracting may support dual enrollment and joint degree programs, thereby prompting creative responses to institutional cooperation to the students' benefit.

Institutional Contracting

36. *The State should continue to recognize contracting with independent postsecondary institutions as a cost-effective approach to meeting the State's needs and goals. Contracting should be recognized as a vehicle to make use of the highest quality programs as well as a means for economizing on state funds. Proposed contracts should be evaluated in terms of state needs, the quality of education provided and the potential saving of state monies.*

Student Financial Aid

37. *The State should continue to provide both need-based and non-need-based financial aid to students at independent institutions in order to further state goals of access and choice. Decisions affecting funding levels for such financial aid programs should be related to state tuition policy. The amount of an individual tuition voucher for full-time students participating in the Tuition Voucher Program should be indexed to the recurring operating general revenue portion of the annual education and general state appropriation for the State University System.*

Involvement in State Planning

The most effective way to use the contributions of the independent and proprietary sectors is to involve them in state planning. Such planning should involve both public and independent institutions, occur on a regional and local level, and ensure that programs are not duplicated unnecessarily by the addition of programs by either sector. In such cooperative planning, the needs for and cost of new and existing programs, the quality of existing programs, and the impact of new programs on current ones should be considered. The participation of independent institutions in cooperative planning should be voluntary, except when direct state support exists.

38. *The independent sector should be significantly involved in statewide and regional postsecondary education planning on a voluntary basis. The State should adopt a formal policy of avoiding unwarranted duplication in the public sector of programs already being offered by independent institutions when the independent programs can be used to meet the State's goals in terms of both needs and quality. Conversely, independent institutions should avoid starting new programs near public institutions which already offer similar programs of quality.*

**Cooperative
Regional
Planning**

Cooperative planning should be coordinated in each of the five regions of the State. The Commission should monitor these efforts and report progress to the State Board. The Commission should also develop procedures to identify the essential steps of such cooperative regional planning, including a process by which advance notice about planning for a new program would be given by both public and independent institutions. Such cooperative planning should also come to include independent postsecondary education in statewide program reviews. A state-level process for collecting and maintaining information needed for cooperative planning is required.

**Involvement
in Program
Review**

39. Independent institutions should be formally involved in program review procedures in the case of contract programs. In addition, the private sector should consider joining its public counterparts in statewide reviews of all programs.

**Information
System**

40. Cooperative planning should be supported at the state level by the development of an accurate information system for public and independent institutions on basic items such as student and faculty characteristics and tuition levels in a format which will allow for valid comparisons and compilations. In addition, information systems which describe the availability of existing postsecondary education offerings (e.g. CHOICES) should continue to include programs at both public and independent institutions.

**Joint Pro-
gramming**

The highest level of cooperative activity is joint programming in which public and independent institutions share faculty, students or facilities. Currently, some administrators and faculty—public and private—are resisting such cooperation. This resistance is academically and economically costly to all.

41. The State should create financial incentives for joint programming and ensure that state rules and policies do not prevent or discourage positive arrangements such as joint faculty appointments, cross-registration, dual programs and joint awarding of degrees.

**Proprietary
Postsecond-
ary
Education**

Florida has a large system of proprietary education which offers a wide variety of programs. Independent postsecondary vocational, technical, trade, and business schools usually are organized and operated for profit and are often called "proprietary" schools. There are two divisions of schools within this group, accredited and unaccredited. The accredited group of schools are typically members under the following accrediting agencies: Association of Independent Colleges and Schools (AICS), National Association of Trade and Technical Schools (NATTS), Accrediting Bureau of Health Education Schools (ABHES), National Accrediting Commission of Cosmetology Arts and Sciences (NACCAS), Council for Non-Collegiate Continuing Education (CNCCE), National Home Study Counsel (NHSC), and Southern Association of Colleges and Schools, Commission on Occupational Schools (SACS).

Of the accredited institutions, some offer specialized, occupationally oriented associate degrees. A number of these accredited institutions enjoy licensure by both the State Board of Postsecondary Vocational, Technical, Trade and Business Schools and the State Board of Independent Colleges and Universities.

The agencies accrediting these institutions are all members of the Council on Postsecondary Accreditation (COPA), and their standards are qualitatively similar to those used by the Southern Association of Colleges and Schools (SACS). SACS accreditation has recently, although grudgingly, been extended to some proprietary schools. While most schools in this category are operated for profit, a few are non-profit, tax-exempt entities.

**Role of the
Proprietary
Sector**

42. The proprietary sector should have a role in cooperative planning. A study should be conducted on the possibility of providing state support to accredited proprietary institutions through existing contracting or financial aid programs. This study should include information on the cost to students and to the State of programs in the public sector and of similar programs in the proprietary sector. It should develop a method whereby the State can be assured of the quality and reliability of possible recipient institutions. Also, it should establish a means and format for gathering statistical information from institutions for incorporation into state planning systems. Finally, the study should address the issue of transfer of credits between proprietary and public postsecondary education institutions.

43. State vocational education planners should take into account the potential pool of graduates available from postsecondary proprietary institutions in determining state manpower needs.

Development of a Structure for Regional Coordination

In this first Master Plan, the Commission's approach is to concentrate on strengthening existing structures and systems, particularly through better coordination of their parts. Two structural considerations, however, one an affirmation of, and the other a supplement to existing structure would assist Florida in developing better coordination of postsecondary education.

**Role of the
State Board
of
Education**

**Responsibility for All
Sectors**

The State Board is the designated body with the statewide authority to bring the wide array of resources into a coordinated network. Every effort should be made to enhance its effectiveness. Over the past years, the State Board has been increasingly involved in making statewide policy for postsecondary education. Further fulfillment of its role as the chief authority for statewide planning and coordination will depend on the extent to which the Board will take the lead in focusing debate on overall policy and will integrate and order the priorities suggested by

**Strong Role
in Coordina-
tion**

the different postsecondary education segments. It should develop policy on issues which are essential in coordinating the postsecondary education efforts of the entire State. The Postsecondary Education Planning Commission can assist the State Board through its advisory role by identifying policy initiatives, analyzing issues, and suggesting priorities.

44. *The authority and responsibilities of the State Board of Education should be reaffirmed.*

**Regional
Coordina-
tion**

Florida is a large state with many different postsecondary education resources and a people and an economy with diverse educational needs. These needs are best met by supplementing the statewide structure with a regional approach as a more effective way to achieve the important goals of coordination and cooperation.

**Linkages at
Regional
Levels**

Each of the major objectives posed by the Commission earlier in this section would be furthered by coordination on a regional or local level. The call to recognize the essential unity of all forms of education and the need for effective student movement from one level to another is best answered where it counts—on the regional or local level where postsecondary education institutions and faculty can cooperate more easily.

The coordination of vocational and adult education, the articulation between community colleges and universities, the cooperation with and use of the independent and proprietary sectors, the improved ties with business and industry as well as the effective use of educational technology—all would benefit by placing more emphasis on regional planning, coordination and cooperation.

The regional approach to coordination encourages that needs be assessed for a common area and focuses the full range of postsecondary education resources on meeting them. Institutional roles must be established on a regional basis to ensure that the area has a diverse and strong set of resources. Most important, state-level program and budget decisions should take into account regional needs and existing programs. The following are recommended to promote regional planning and cooperation:

**Regional
Needs and
Program
Decisions**

45. *Postsecondary education boards and institutions, the Department of Education, the State Board of Education, and the Legislature should identify and categorize needs and determine the capacity of existing institutions to meet these needs on the basis of the five regions of the State defined by the Department of Education. This regional breakdown of information should be used in program and budget decisions.*

**Consider All
Resources**

46. *All educational resources of a region should be considered in program and budget decisions.*

Cooperation

47. *A primary goal should be greater continuity in educational programs for students. Priority should be placed on the greater cooperation among all levels of education and between postsecondary education and the community.*

Regional Agents

Coordination and cooperation should be promoted by structures and people who have such goals as their major responsibilities.

48. The State Department of Education should appoint one official in each of five regions who will act as an initiator, a catalyst, and an agent for enhancing regional coordination and cooperation. Some of the activities which this agent would pursue include the following:

Responsibilities of Regional Agents

- a. *Improving links between K-12 and postsecondary education.*
- b. *Improving student articulation between community colleges and universities, particularly the activities concerning faculty communication and joint planning.*
- c. *Assisting the efforts of the Regional Coordinating Councils to identify needs clearly and to assign program responsibilities among different segments which provide vocational education, adult education and community instructional services.*
- d. *Developing the potential of technology to improve access to educational resources.*
- e. *Involving the independent sectors in meeting educational needs more cost-effectively.*
- f. *Assisting all segments in supporting economic development, including vocational centers, community colleges, public and independent universities and colleges and proprietary schools.*
- g. *Increasing cooperation between business and industry and postsecondary education including the coordination of university research and development; the identification of continuing and professional education needs; the sharing of faculty, staff and equipment; and the promotion of cooperative education programs.*

Linkage of Postsecondary Education to Florida's Economic Development

Changes in Technology

Important Economic Development Goals

Anticipatory Training Programs

American industry is undergoing a major technological transition that is driven primarily by dramatic advances in computer applications, microelectronics, and automated machinery. Industries with new training needs are emerging; and existing industries require new and different skills from their employees. Florida is attempting to expand its industrial base by actively pursuing an economic development program with special emphasis on high technology. For Florida to be successful in attaining its economic development goals, postsecondary education must play a large role. In doing so, it must have the foresight and the flexibility to adapt to a changing occupational landscape.

To attract new industries to the State and support the growth of existing ones, there must be a special planning process which will do more than react to existing vocational needs. At present, attempts to anticipate the demand for trained technicians in emerging technologies are not encouraged because funding depends on the actual presence of

students and current demands from existing employers. Local companies, however, may be discouraged from developing the new technologies crucial to higher productivity if trained workers are not likely to be available. Moreover, new industries may not consider relocating to a community that lacks such training programs. Postsecondary education should work closely with industry in the State and with economic development recruiters to identify new, state-of-the-art training needs, especially for high technology firms. Community colleges in particular should take a leading part in this cooperative process, because of their roles in providing high-level technical programs.

**Special
Planning
Process to
Predict Future
Needs**

Beyond the institutional efforts, a special state-level planning process must anticipate future training needs. This planning process must occur at the state-level to ensure that the State's economic development goals are supported. Also, since planning for the future requires innovative and experimental programs to be designed and likely incurs a certain risk, the State should encourage experimentation and help buffer any liability by providing special funds.

49. A state-level planning process should be developed to identify future training needs in high technology industries. As the needs are identified, the State should provide special funding to encourage local school districts and community colleges to initiate programs and to help offset high start-up costs.

50. Postsecondary education leaders must remain current in the advanced and emerging technologies. This can be done by acquiring information from many resources, including journals and other publications, professional research associations and centers, and representatives of advanced technology manufacturing associations.

**Shared
Personnel
and
Equipment**

Because of the high cost of technologically sophisticated equipment and the shortage of trained instructors in newly emerging fields, business and industry must work closely with postsecondary institutions in providing access to expensive equipment, sharing personnel for instructional assistance and developing curriculum.

51. The State should explore the use of tax credits or other incentives to encourage business and industry to share their resources with postsecondary institutions.

**Vocational
Education**

Vocational education is a strategic contribution to economic development and is of increasing importance for paraprofessionals trained for technical occupations, typically in community college programs. As Florida's economy moves toward the year 2000, a continually growing proportion of jobs will require advanced technical training and skills. Education must respond.

**Response to
Advanced
Technological
Needs**

Vocational institutions should recognize the immediate and the future impact of emerging technologies in the workplace. For example, the increased use of robots and computer-controlled machine tools and design systems will displace many jobs in welding, machine tool operation, drafting, painting, inspection, and assembly. Other jobs will require greater fluency in routinely accessing, analyzing, interpreting,

and applying computer-based data. Programs should be designed to emphasize the skills needed in the future, and to de-emphasize those that have become or will soon become obsolete. In some cases, more traditional programs should be phased out to free resources for new, more occupationally relevant programs.

52. The Department of Education and local boards should review their procedures, rules and regulations, to ensure that the procedures for approving and funding new programs encourage sound and creative proposals in advanced technology areas.

Clearinghouse for Information About Educational Strengths

Florida has a strong and diversified set of postsecondary educational institutions. For the State to be successful in attracting desirable industries, information about the State's educational programs must be readily accessible to the State's economic development recruiters.

53. The Department of Education should establish an office at the State level to act as a clearinghouse for information on Florida's postsecondary education programs of value to the State's economic development. This office should maintain information on the work and expertise of Florida faculty in public and independent institutions. It should also prepare data on the quality and number of postsecondary education programs in areas critical to economic development, identify programs of excellence, and compile statistics to be used by economic development recruiters to improve the perception of Florida's postsecondary education capacity.

Use of Lay Advisory Councils

Another way to strengthen linkages between education and industry is to develop closer ties between industry and vocational educators in curriculum development and skills training. In this regard, the Commission has been impressed by the work and results of lay advisory councils in various areas of the State. These groups have substantial value in strengthening the relationship between business and education.

54. The advisory council concept should be maintained and strengthened and appointment to councils should be shared between business people and educators. Technical assistance should be provided by the Department of Education in such areas as preparing agendas and minutes, record-keeping, and legal responsibilities.

Accurate Manpower Information

Effective coordination depends on educators being better informed about the needs of the economy. Currently, such information is inadequate.

55. The resources of the Departments of Commerce and Labor and the business and industrial communities should be brought to bear upon predicting manpower needs in Florida. Procedures for projecting manpower needs should be

standardized so that all providers of vocational education (school districts, community colleges, and proprietary institutions) have a common basis on which to make and to coordinate their program decisions.

**Industry
Services
Training
Program**

Particularly effective is the Industry Services Training Program (IST) of the Division of Vocational Education. This program is designed to help acquire, in a reasonably short time, a trained labor force for industries that are expanding or relocating to a new area. This exemplifies a successful partnership between education and business. Factors that have made the program successful—close ties with industry, quick response time, customized job training and close links with the Department of Commerce—should be emphasized in other vocational efforts.

56. The Industry Services Training Program should be strongly supported and its strengths applied to a wider range of vocational programs.

**University
Contribu-
tions to
Economic
Development**

Universities make substantial contributions toward the research, development and professional manpower needs of industry. The potential for more cooperation is great particularly in the high technology area, but also extending across the entire business and industrial spectrum. However, several specific and prompt actions will be required to fulfill this potential.

The expertise of the teaching and research faculty and staff at Florida's colleges and universities should be applied to the State's economic development needs through contracts, grants, consultation, and public service projects. These form the basis for the "technology transfer" which must occur if higher education's research and development is to stimulate growth in the private sector. To do so, however, will require more cooperation between education and industry.

**Technology
Transfer**

57. To realize the full potential of economic development in high technology industries, Florida must develop programs of national renown and excellence, particularly in the fields of engineering and science. The State must fund these endeavors at a level commensurate with excellence and a goal of national distinction.

**High
Quality
Programs**

Distinctiveness and high quality research and education are more important to economic development than the number of institutions seeking to excel.

58. Florida should raise its research universities to preeminence. The presence of such institutions would assure industry of a source for developing the latest technology and for being on the frontier in transferring the newest technology from academe to industry. Such an effort would require more focused use of additional educational resources and would assure high technology industries that Florida has resolved to provide top research and educational support.

Continuing Education

High quality continuing education for practicing professionals is critical to the professions, to business and to industry. It is a major guarantee of steady professional and economic development.

59. The involvement of leading faculty members at Florida institutions is needed to deliver the best educational services of the State. The latest educational technology should be used to make faculty expertise available statewide.

Registry of Faculty Expertise

The coordination of faculty research and expert skills with the needs of industry would be aided by information on what postsecondary education has to offer.

60. A computer-based registry of faculty and staff with expertise in areas of high need by Florida business and industry should be compiled in conjunction with the public and independent universities and the Department of Commerce. This registry should be located in the clearinghouse mentioned above in Recommendation 53.

Research Parks

Research and development parks are another means for universities to work closely with industry. Such parks are currently being developed in Tampa, Orlando, Gainesville, and Tallahassee. They provide an opportunity for public and independent universities, business and industry, and governmental agencies to share and profit from each other's skills and areas of expertise.

61. Universities should continue close relationships with local research parks to encourage increased sharing of expensive equipment and facilities between postsecondary institutions and business and industry.

Adjunct Faculty

Two arrangements have special potential for improving the linkage between the educational and economic sectors. First is the use of adjunct faculty. The exchange of faculty and industrial experts would benefit economic development and the high cost of faculty compensation in technical and professional fields could be reduced. Selective use of practicing experts in certain fields adds new experience and quality. Arrangements similar to the models developed by medical schools in which faculty are permitted to assume both private practice and teaching responsibilities should be applied in other fields.

62. More flexible contractual arrangements promoting the use of adjunct and clinical faculty should be developed to attract faculty members in areas of critical shortages such as engineering, science, and mathematics.

Cooperative Education

A second arrangement to emphasize is cooperative, on-the-job education. All sectors presently have programs that enable students to work in the industrial or business area in which they are pursuing a degree. Such programs often are structured so that a student attends school one term and works full time during the following term. Not only does workplace experience help students defray the cost of education and

reinforce learning, but the close ties developed between the student and the industry help increase the chances that the student will seek employment within the State. This is critically important in areas where demand exceeds supply, such as engineering.

63. Cooperative education should be expanded and supported by state financing policies. The regional brokers described in the above section on regional coordination should be responsible for coordinating these on-the-job programs between institutions and industries.

FINANCING AND EVALUATION

Financing to Improve Quality

Florida's efforts to strengthen postsecondary education depend upon sensitive and discerning financing and evaluation, which will more directly support efforts to improve educational quality. As the needs for postsecondary education become more complex, the varied programs which address these needs must be assessed individually. Relying on sheer numbers of students, undifferentiated by the nature of demands they place on programs, or the performance of existing programs that serve them, will not provide the depth of perception required to adjust resources to improve quality.

Need for Program Budgeting

The purpose of program budgeting is to include in financing decisions the quality of programs as well as the number of students. The principal difference between enrollment-dominated and program-based budgeting is that the latter examines carefully the quality of existing programs and the resources required to improve these programs for specific numbers of students. This more comprehensive analysis, however, also indicates why program budgeting seldom has succeeded in postsecondary education: the complexity makes it fall by its own weight. It is difficult to evaluate each major program for every budget cycle. Moreover, for many programs there is little agreement on what characteristics constitute quality, thus precluding its measurement and any effective evaluation to determine practical means to improve quality.

Obstacles

Linking Program and Budget Review

Nevertheless, Florida requires a financing process that is sufficiently sensitive to direct resources to improve quality. Described below is an approach to program budgeting that is built upon a strong system of program evaluation and budgeting procedures which accommodate the results of program reviews. Its effectiveness hinges on the extent to which program and budget reviews can be linked. This section also examines the role of student tuition in financing postsecondary education and the extent to which financial aid should be provided to encourage access. These issues are critical to Florida's policies on financing postsecondary education.

The Commission also believes that the general level of funding for postsecondary education should be raised. The recommendations in the following sections primarily concern a better process for determining resource needs, for allocating resources to postsecondary education, and for evaluating the effectiveness of those resources. While budgeting and evaluation are emphasized in this report, adequate revenue for financing is just as critical.

Funding should be at a level that allows Florida to compete at national levels for superior faculty and students. Nationally, Florida ranks 21st in appropriations per student, 45th in expenditures per capita for public institutions, and 44th in expenditures per \$1000 of personal income. Moreover, when adjusted for inflation, current support per student is below that of 1970.

Funding should be increased to support Florida's efforts to improve quality. A Master Plan now exists that identifies specific directions and priorities for using the increased resources effectively and in coordinated and accountable ways. The State's goal to improve quality, and the Plan for doing so, should be joined by a state commitment to provide

greater financial support. Each is a necessary condition for excellence in Florida postsecondary education.

Program Evaluation

Program Review as a Key to Effective Budgeting

The foundation for effective program budgeting is program evaluation, performed so that results are available for use in making budget decisions. Program budgeting is concerned with determining the need for programs, the effectiveness of their existing resources in producing desired outcomes, and the resources required for improved quality. Statewide program review provides for this evaluation if done well. Moreover, program review already is accepted by postsecondary education as a legitimate activity.

While program evaluation exists in Florida to some extent, particularly in the State University System, the reviews are not conducted on a regular basis by all sectors. No sector currently reviews all of its programs within a specific time period.

Extensive Program Review Needed

1. *The State University System, the Community College Coordinating Board and the Division of Vocational Education should strengthen their procedures for reviewing existing and proposed new programs. The procedures should require that every major program is reviewed at least once every five years on a system-wide basis. Resources should be provided to support these efforts.*

Three conditions must be met in developing effective program review: definition of programs to be reviewed, establishment of indicators of quality, and development of criteria to focus the reviews on the critical program elements related to quality and resource use.

Defining Program Categories

Each sector of postsecondary education must determine what programs will be subject to review. Any program category is possible: level of study (lower and upper division, graduate), institutional activity (instruction, research, service), major divisions or schools (Arts and Sciences, Law, Medicine, etc.), discipline or student major, or type of institution (community college, university, vocational center). The definition of a program is important only to the extent that the resulting categories allow funds to be reviewed, requested, appropriated and allocated with enough accuracy to ensure that critical programs receive appropriate resources. For example, the funding formula should recognize that there are both emerging institutions with expectations of continuing growth, and established institutions with a stable program and enrollment. The funding approach should provide adequate resources for both types of institutions.

2. *The State and postsecondary education should agree on what programs will be examined. The categories should be discrete enough to encourage the following conditions:*

**Related
to State
Priorities**

- a. *To allow the State to direct resources so that important state priorities are met. To do this may require financing by level of study, by professional programs, by kind of institutional activity, or type of institution.*
- b. *To allow for the determination of different resource needs of programs. While there are some differences across all programs, those with relatively similar resource needs should be grouped so that they may be reviewed together.*
- c. *To not be so numerous as to discourage close review.*

**Similar
Resource
Needs**

**Different
Perceptions
of Quality**

Defining Quality

One of the problems of improving quality has been the difficulty in defining its nature. Quality doesn't mean the same thing in all programs in every institution. Quality may be seen as additions to student learning and other outcomes, as the products of research and scholarship, as the availability of comprehensive collections of research materials, as the presence of good students and faculty, of a low student-faculty ratio or of high appropriations per student. These perceptions of quality vary across programs and institutions depending upon purposes, missions, and priorities. Reviewing individual programs on a statewide basis will encourage greater precision in defining what quality means for different programs, and in developing ways to measure quality. For these reasons, statewide program review can be an important basis for effective quality assessment and improvement strategies.

3. *As part of the program review process, the different post-secondary education sectors should define the important indicators of quality for each major program. These indicators should form part of the criteria for evaluating programs. The independent sector should be involved in this process.*

Criteria for Reviewing Programs

Criteria should be established to guide the review of each program or group of programs. These criteria should include the indicators of quality for each program and also should address at least the following points:

**Specific
Criteria for
Program
Review**

- a) *Relationship of the program to state needs and priorities as established jointly by the State Board of Education, the Legislature, and the postsecondary education community.*
- b) *Manpower needs.*
- c) *Student demand.*
- d) *Quality and characteristics of students.*
- e) *Student outcomes, including graduate follow-up results.*
- f) *Productivity of program in terms of students enrolled, graduates, or service to other programs in the institution.*
- g) *Faculty and professional staff quality and productivity.*

- h) Instructional quality, including average class size and student-faculty ratio.*
 - i) Quality and accessibility of library resources.*
 - j) Adequacy of other resources, including equipment, space and non-academic services.*
 - k) Cost of the program, both instructional and full costs.*
 - l) Overall quality of program.*
 - m) Resource needs to accomplish specific improvements.*
 - n) Possible unnecessary duplication of programs.*
- 4. Sector boards should establish criteria for conducting program reviews. These criteria should provide for indicators of quality specific to each major program and should address at least the points listed above.**

Program Budgeting

Program budgeting is a process in which program evaluation results are used in budget decisions. It is not a merging of program and budget review, but a process by which program evaluation precedes budget decisions.

The goal is to make program evaluation useful to the budgeting process. To do this, some accommodations will have to be made in financing procedures.

Gradual Conversion

One of the major obstacles to program budgeting is the discontinuity caused by sudden change from accustomed formats: productivity ratios, costs per student, line-item classifications and so on. In addition, the impossibility of reviewing each program for any one budget cycle makes sudden and complete conversion unlikely. Yet a program-based budget can be built upon traditional formats and be pieced together gradually over a five-year period. As each set of program reviews is completed, it may be used to adjust the rates in existing formulas to reflect the resources indicated by the evaluation results. In this way, there will be continuity between different budgeting processes. By reviewing each major program every five years, the entire postsecondary education budget should gradually be complemented with these evaluation results.

- 5. As each major program review is completed, the results should be folded into the funding process, thus allowing a fully 'program-based' budget to emerge over time.***

Distinct Funding Categories

A budgeting process geared to quality improvement must have strong links among the budget request, appropriation, expenditure, and evaluation stages of financing. Important to strengthening these linkages is the separation of funding into categories that distinguish funds for enhancement and new programs from funds for continuing operations (base) and workload adjustments. Four categories are suggested:

**Fold in
Evaluation
Results as
They
Become
Available**

**Separation
of Funds for
Enhancement
and New
Programs**

- a) **Base Funding**—The funding needed to continue existing programs at last year's enrollment levels.
- b) **Workload Funding**—Adjusting the base funding to reflect changes in number of students in continuing programs. Marginal cost funding should be employed; that is, neither additional nor fewer students should lead to increases or decreases in funding equal to the current average appropriation per student. This recognizes that a modest number of students can be added without increasing appropriations at the same rate. For similar reasons, a small decline in numbers of students should result in reduced appropriations, but at a rate which recognizes that full costs cannot be immediately cut.
- c) **Enhancement Funding**—The funding to improve the activities or services of continuing programs and to meet special needs not met by base funding.
- d) **New Program Funding**—The funding required to begin new programs minus the base funds saved by program reduction or elimination. The sector governing and coordinating boards should develop a procedure to trigger an immediate program review when enrollment in a program significantly declines. The procedure should be used in each budget cycle whether or not new programs are actually requested. Prior to initiating new programs, these boards should be required to certify that identified needs cannot be met by existing programs in either public or independent institutions or by the application of educational technology.

The program budgeting process should lead to funds being generated for these four purposes in each budget cycle.

6. Funding should be requested, appropriated and expended according to categories which distinguish enhancement monies and new program funds from dollars for base operations and enrollment volume adjustments.

Rolling Base

To simplify the budget process, a "rolling base" should be used, in which all additional funds are folded into the base for subsequent years. While the base will not be totally regenerated each year, accountability for enhancement and new program monies will be formalized through the regular five-year program reviews.

While the Commission suggests a rolling base to streamline the budget process, the State should expect existing programs to be reviewed for possible reduction or elimination. This review should be in addition to adjustments made to the base each year to reflect changes in the number of students (workload). Categorical funding for new programs should be linked to the potential for reducing base (or last year's) expenditures. The reviews of existing programs should result in some programs being cut back, thus freeing funds for proposed new programs. The constant reassessment of the relative benefits and costs of proposed as well as existing programs should be brought into the

Expect Existing Programs to be Reviewed

Substitution of Old with New Programs

financing process and the total state funds appropriated for new programs should take this into account.

- 7. A rolling base should be used, in which workload, enhancement and new program funds are folded into the base in subsequent budgets. Although funding levels of continuing programs are accepted as the base, the State should expect that part of the funds available for new programs may be drawn from the reduction of continuing programs.*
- 8. Postsecondary education institutions should be allowed to carry over funds for operating capital outlay from one year to the next, and consideration should be given to allowing the carry-over of all funds.*

Linking Program Review to Budgeting

Steps to Link Program Review Results to Budgeting Decisions

The success of program budgeting depends on the extent to which the results of program evaluation are related to budgeting. The most notable weakness of program review nationally has been the failure to apply its results to state-level budgeting. This has been true in Florida. Program review can provide the comprehensive, qualitatively-oriented evaluation of the resources needed to improve specific programs—which is the goal of program budgeting.

- 9. Program review results should be linked to budgeting decisions. The following specific actions should be taken to create this linkage:*

Regular Review of All Programs

- a. As stated above, require that every major program be reviewed every five years.*

Enhancement Funding Tied To Specific Programs

- b. Tie enhancement funding to specific programs and insist that it follow reviews of those programs. Enhancement funding requests should be linked to the State Master Plan, institutional role and scope statements, and the findings from program reviews. For example, if strengthening undergraduate education is a state quality objective, then enhancement requests should be evaluated with that objective in mind.*

Scheduled Accountability for Enhancement Funds

- c. Expect, although not require, that enhancement monies requested for specific programs be spent on those programs. The institutions should be held accountable for the attainment of the program results which were established as goals in the original request for the improvement monies.*
- d. Require that the effectiveness of enhancement funds be evaluated no later than five years after allocation. This would be part of the regular program review cycle and would provide for accountability of the quality improvement monies. In this way, closer relationships among budget request, appropriation, allocation and actual expenditure will be built.*

- e. *Review annually the results of one-time quality improvement appropriations, the findings to be provided to the State Board of Education and the Legislature.*

**Budgets
Based on
Needs and
Quality**

By following these steps, larger parts of each successive year's budget will be related to state priorities and to institutional missions. Equally important is the linking of enhancement funding requests to accountability through program reviews which will result in greater proportions of each budget being tied to programs with specific goals for improving their quality. With each budget cycle, more will be known about the relative strengths and weaknesses, and benefits and costs, of specific programs.

In short, a formula budget based on program needs should be built piece by piece. At any time, policymakers would be able to trace funding decisions to specific program results. If an institution decided to use fewer funds for a program than actually generated for the program by the formula, that institution would have difficulty making a case for enhancement funding to improve quality. This would also be the appropriate time to consider program termination if the program is no longer addressing an identified state or institutional need.

Management Information Systems

Strengthening program and budget review requires accurate and timely management information from all sectors. The information needs of program budgeting must be defined carefully and include only essential data. The capability to simulate by computer the impact of budget decisions across postsecondary education sectors should be utilized by the State Board of Education in developing a legislative budget request, and by the Legislature in evaluating that request.

10. *To support the above program and budget review procedures, the management information systems of the different sectors should be strengthened to provide complete and timely information.*

11. *Since accurate information is essential for budgeting and planning, the information systems of the three public postsecondary education sectors should be compatible, particularly in the cost areas. Accurate program and budget data from both the public and independent postsecondary education institutions should be maintained at the state level for planning purposes.*

**Study of In-
formation
Needs**

12. *As part of its responsibilities for advising the State Board of Education and the Legislature on matters of planning and coordination for all postsecondary education, the Postsecondary Education Planning Commission should initiate immediately a study of the essential information and reporting needs of state-level bodies, such as the State Board and the Legislature, related to planning and budgeting. Upon their determination, these needs should be compared to the kinds of data available and the reporting schedules and formats that currently exist in the management information systems of the divisions of universities,*

community colleges, and vocational education. Recommendations should be made to promote more effective reporting.

Roles in Program Budgeting

**Executive
and
Legislative**

A revised financing system based upon the above principles will require each part and level of the budget process to play specific roles.

Executive and Legislative budget officers should develop the technical aspects of the new system, including program definitions, reporting and accountability schedules, and budget formats. This should be done as soon as possible.

**Post-
secondary
Education**

The Board of Regents and the Community College Coordinating Board should be responsible for reviewing programs systemwide and for relating the results to system budget priorities. In each budget cycle, these system boards should develop an order of funding priorities for their systems, which will reconcile state goals, individual institutional objectives and system planning guidelines.

**State Board
and the
Post-
secondary
Education
Planning
Commission**

The Postsecondary Education Planning Commission should assist the State Board of Education and the Legislature in developing, from their basis in the Master Plan, the statewide goals and priorities for each budget cycle. The Commission should also advise the State Board and Legislature on the overall effectiveness of the program review procedures as established and carried out by the sector boards. Furthermore, the Commission should determine the extent to which program review results are being utilized in the budget process and examine system budget requests to determine whether or not the priorities and goals stated in the Master Plan are supported. It should make its findings available to the State Board and the Legislature and advise on these matters throughout the budget process.

**Criteria for
Measuring
Perform-
ance**

In developing and recommending state priorities and goals for post-secondary education, the State Board should identify the general nature of student and institutional performance and outcomes. It should be the responsibility of the sector boards and individual institutions, however, to establish specific criteria for directing and measuring growth in these goal areas and for reporting the results to the State Board of Education and Legislature. These criteria particularly affect implementation of the State's strategy for meeting the State Board's goal that "on a statewide average, educational achievement in the State of Florida will equal that of the upper-quartile of states within five years, as indicated by commonly accepted criteria of attainment." Each sector must develop criteria that will adequately measure progress towards its quality goals. The State Board of Education, with the assistance of the Commission, should review the criteria submitted by each sector and adopt a set of standards that the public can use in evaluating progress towards the goal of becoming a state of educational distinction.

**Strategy of
Comparing
to Other
States**

**Strategy of
Continued
Improve-
ment**

Because Florida is one of the leading states in developing indicators of quality, it is quite possible that many of the important indicators and their measures will not be available in other states. Interstate comparison, then, will be difficult. When important quality indicators are not found to be comparable nationwide, a method should be developed which will measure improvement on these measures in Florida over time. This will enable Florida to document yearly improvement in quality on the important indicators.

Unified Budget Submission

Because of our view of education as a lifelong continuum, the Commission believes that a unified budget request for all of education should be submitted to the Governor by the State Board of Education. This is consistent with Section 229.053(1)(e), F.S., which directs the State Board to adopt and transmit to the Governor as chief budget officer of the State on official forms furnished for such purposes, on or before November 1 of each year, estimates of expenditure requirements for the State Board of Education, the Commissioner of Education, and all of the boards, institutions, agencies, and services under the general supervision of the State Board of Education for the ensuing fiscal year. It is also supportive of Section 229.512(9), F.S., which calls for the Commissioner of Education to submit his budget recommendations for these entities by October 1 of each year to the State Board. This budget process is *very* important. The Legislature requires budget recommendations from the Governor which have been arrived at after careful consideration of all of the needs of the State. The Governor in turn needs budget recommendations from the State Board which have been adopted after weighing the needs of all levels of education.

13. State university budget requests should be transmitted to the Board of Regents and state community college budget requests should be transmitted to the Community College Coordinating Board. The Boards should then present a unified budget request for their respective systems to the Commissioner and the State Board. Therefore, instead of the current practice of state universities submitting a complete legislative budget request directly to both the Board of Regents and the Legislature (Section 240.227(2), F.S.), the full budget document should go only to the Board of Regents. A summary of each institution's request to the Board of Regents, and subsequent modifications to that request by the Board of Regents, could be prepared and made available as needed by the Legislature. This procedure is also recommended as the community college budget request process. Institutions should make their best case at the system board level, and lobbying above that point should be in support of the respective board's request. Such a unified submission process is essential if postsecondary education is to receive the resources needed to offer quality programs.

Student Tuition and Financial Aid Policies

Increased Attention to Tuition

Tuition rates for public four-year colleges and universities in the nation have gone up 16 percent in the past year. That rise is four times the increase reported a year ago, and the largest increase in at least a decade. In Florida, the Legislature instructed the State University System to increase matriculation fees for Florida residents by 20 percent effective Spring 1982. The community colleges are also increasing their student fees, and vocational education fees are currently being realigned to make them uniform across different delivery systems.

**Clear State
Tuition
Policy
Required**

The increased attention given to tuition and fees grows from several general concerns. These include increased demands on state budgets, the concern over escalating postsecondary education costs, and the desire for a clear policy outlining the role tuition should play in the total financing structure of postsecondary education. The formulation of tuition policy calls for a reconciliation of lofty aspirations and fiscal constraints, of concerns for efficiency and concerns for equity, and of needs for consistency and needs for flexibility. A judicious and feasible tuition policy must address the needs of the State for revenue as well as the needs of the State for an educated citizenry. It must be able to reconcile the needs of the financially disadvantaged with the concern of the taxpayer. Thus, a significant part of any master plan should be a clear state policy on tuition.

**Tuition
Indexed to
Appropriations**

14. Tuition at public community colleges and universities in Florida should be indexed to state general revenue appropriations. This approach will allow students, parents, institutions, and the State to plan on likely tuition levels.

15. In deciding on appropriate levels of support, the Legislature should take into account all sources of funds as it does at present. Income estimates, however, should be based upon a policy determination that the public community colleges and state universities should generate from charges to students a predetermined percent of the previous year's general revenue support. The Legislature should appropriate only general revenue funds, and should grant to each institution authority to set, collect, disburse or retain fees within a range it determines. In the case of the nine state universities, specific institutional plans to set, collect, disburse or retain such fees shall be submitted to the Board of Regents for approval. The mid-point of that range should be the student charge assumed by the Legislature in arriving at its estimate of tuition income. The proposed range gives to each university a flexibility it does not now possess and in a limited fashion moves it into a competitive market in which pricing of the product plays a role.

**Specific
Implementation
Procedures**

The above recommendations highlight the main Commission position on tuition policy. The implementation of such a policy will be a complex task, because several policy decisions must be made in related areas. The Commission gave serious consideration to these related issues and suggests the following points as one possible approach to the detailed implementation of the general "index" recommendation. A complete discussion of this topic is contained in "Postsecondary Education Tuition Policy" (PEPC: March 22, 1982).

- a) Tuition at public community colleges and universities in Florida should be indexed to state general revenue appropriations. In the case of community colleges, the index should be applied to the amount appropriated in the Advanced and Professional portion of the Community College Program Fund. For state universities,

undergraduate tuition should be indexed to the recurring operating general revenue portion of the annual Education and General state appropriation. The index should not be applied to special non-recurring quality improvement appropriations or extraordinary faculty salary adjustments, which are in addition to the recurring operating general revenue appropriation. This has the effect of limiting annual tuition increases to a reasonable amount. Because substantial prior notice is essential in setting fees, the index should be directed at the previous year's appropriation. This approach will allow students, parents, institutions, and the State to plan on likely tuition levels.

- b) The index percentage should be the same for all undergraduate students within a state university and for all college parallel (A&P) students within a community college; there should be no lower/upper level distinction for tuition purposes.
- c) In deciding on appropriate levels of support, the Legislature should take into account all sources of funds as it does at present. Income estimates, however, should be based upon a policy determination that the public community colleges and state universities should generate a predetermined percent of the previous year's general revenue support from charges to students. The Legislature should appropriate only general revenue funds, and should grant to each institution authority to set, collect, disburse or retain fees within a range it determines. In the case of the nine state universities, specific institutional plans to actually set, collect, disburse or retain such fees shall be submitted to the Board of Regents for approval. The midpoint of that range should be the student charge assumed by the Legislature in arriving at its estimate of tuition income. The proposed range gives to each university a flexibility it does not now have and in a limited fashion moves it into a competitive market in which pricing of the product plays a role.
- d) Fees earmarked for specific systemwide purposes such as building fees or student activity fees should continue to be remitted to the appropriate authority. All other fees and student charges should be retained by the institution for its general operations and should be accumulated and carried forward as the universities now do with student activity and service fees. In the case of the nine state universities, the specific institutional plans to accumulate and carry forward such fee revenues should be approved by the Board of Regents. This recommendation does not envision a change in the "state agency" status of the State University System, but rather a specific exemption to allow carry-over of tuition revenues.
- e) Institutions which apply an index percentage within the allowable range but above the percentage used by the Legislature will derive additional income for quality improvement purposes. If an institution desires to use a portion of such flexible funds for financial aid purposes, a specific plan should be developed and

filed with the Florida Student Financial Assistance Commission. The Commission would then be in a position to recognize such aid in developing total student aid packages. Such campus programs should also be reflected in the overall state financial aid policy currently under development. No fees should be waived. In this way, waivers of fees for student financial aid will be accounted for, but each institution will be free in effect to forego income which would otherwise be available for other institutional purposes. No campus decision in this area should detract from any other institution's future general revenue allocation. Any exception to this "no waiver" policy should be on a space available basis, and the students involved should not be counted for FTE funding purposes.

- f) To assure that legislative policy determinations of the percent of the previous year's general revenue support to be borne by student charges will not be transgressed, mandatory charges to students other than the general charges should be prohibited. This prohibition should exclude charges for admission to a single event or a series of non-classroom and non-laboratory events such as athletic events, cultural programs or optional field trips. On the other hand, laboratory fees will be foreclosed as a condition of course enrollment.
- g) Allocation of appropriated funds to each university and community college should be determined upon assumptions of fee-related income to be generated through the legislatively approved median charge regardless of income realized through actual charges. The Board of Regents allocations to the nine universities should be based on a standard fee and take into consideration any special programmatic factors at the institution. The flexible rate above or below the legislatively approved median charge should be applied subsequent to the allocation decision.
- h) The Legislature should establish policy on out-of-state fees and graduate fees using ratios tied to the undergraduate fee. Income to be theoretically generated by fees established through such ratios should be used in computing total income available to institutions. Institutions should be free to vary such charges within legislatively approved percentage ranges. Initial ratios should be proposed to the Legislature by the Board of Regents and the Community College Coordinating Board for their respective sectors.
- i) The initial index range for undergraduate fees at state universities should be 20 to 30 percent, while the initial range for community colleges should be 30 to 40 percent. While the index base is different in community colleges and state universities, the actual tuition at community colleges should never exceed the tuition assessed at state universities. Within these broad ranges, the sector boards should recommend a permanent five percent range to the State Board of Education and the Legislature. As noted earlier, the midpoint of that range should be the student

charge assumed by the Legislature in arriving at its estimate of tuition income. The index should be applied every year. The Legislature always has the option of maintaining the current tuition level during a year in which unusual economic circumstances prevail. The Commission recommends, however, that state tuition policy should be continued the following year by reapplying the index percentage. The key goal is to establish an index approach which recognizes that both society and the student benefit from postsecondary education.

- j) Postsecondary vocational education is offered by community colleges and public school districts. The State Board of Education is authorized to annually review minimum and maximum matriculation fee amounts for postsecondary vocational programs offered by public school districts. The Board has adopted uniform procedures and ranges for student fees assessed in postsecondary vocational education programs and postsecondary adult vocational education programs for both delivery systems.

Public school districts and community colleges are allowed to charge fees outside the established ranges provided the average fees collected per FTE for the entire vocational program fall within the prescribed range. The Commission recommends the continuation of this approach, recently adopted by the State Board of Education.

**Advantages
of Stable
Tuition
Policy**

Implementation of the above recommendations for both community colleges and state universities will result in a stable pattern of tuition charges with gradual increases instead of an unpredictable policy which has resulted in infrequent large increases with accompanying hardship upon students and parents. The plan provides postsecondary institutions with a management tool of consequence and gives them limited flexibility in pricing their product and regulating their income. Finally, a stable approach to statewide tuition policy will enable the development of a meaningful state policy on student financial aid.

**Student
Financial
Aid Policy**

Florida's current student financial aid policy was passed by the 1970 Legislature and is contained in Section 240.437(2), F.S. Since that time changes in statute and practice indicate that these guidelines should be revised. In addition, recent policy developments by the federal government, which has been the primary provider of financial aid, as well as drastic changes in the composition of the student population at some institutions, have underscored the necessity to reexamine Florida's existing policy. The 1982 Legislature directed the Commissioner of Education to conduct a study to determine the most effective uses for available student financial aid resources to best serve the needs of students and their families, the institutions, and the State. This study will be completed in the Fall of 1982, at which time the federal situation should also be clearer.

**Financial
Aid Study
Completed
by Fall, 1982**

**General
Recommendations**

The more complete information and policy options developed as part of the above study will be used to address the financial aid issue comprehensively early in 1983. At that time, the Commission will offer specific policy recommendations on state financial aid policy for consideration by the State Board of Education and ultimately by the Legislature. In the meantime, the following broad policy is recommended.

- New Policy Needed** 16. *In light of subsequent changes in state policy and recent federal developments, as well as changes in the nature of students attending certain institutions, the 1983 Legislature should formally adopt a new statutory state policy on student financial aid.*
- Low Tuition Not Best Form of Financial Aid** 17. *Simple reduction of student tuition is not an effective form of financial aid because it is not targeted to individual student need.*
- Centrally Administered** 18. *State student financial aid programs should continue to be administered by a central state agency, and such financial aid should continue to be available for all levels of post-secondary education.*
- Access Important** 19. *The primary goal of financial assistance programs should be the provision of access to postsecondary education for Florida residents. The demonstration of financial need, therefore, should continue to be a requirement for most programs.*
- Need-Based Loan Program** 20. *In response to federal reductions in student loan programs, the State should consider reestablishing a state need-based loan program to complement existing state programs and those federal student assistance programs which are funded by Congress. Actual loans should be made by private lending institutions with appropriate state guarantees. Defaults should be handled consistent with practices utilized in private lending institutions.*
- Aid to Students at Independent Institutions** 21. *The need-based Florida Student Assistance Grants (FSAG) program should continue to be available to students in both the public and independent sectors of postsecondary education. The Florida Tuition Voucher Program should be continued as a way to provide "choice" as well as "access" to Florida citizens. If federal reductions impact as harshly on the independent sector as predicted, one policy option for the financial aid study to consider would be the maintenance of this program with the initiation of a financial needs test, or a family income ceiling.*
- Academic Standards** 22. *Financial aid policy should address standards of acceptable academic progress for continued receipt of state or federal financial aid by students in public and independent institutions. Independent institutions whose students are eligible to participate in the Tuition Voucher Program should assure that voucher recipients take the College Level Academic Skills Test. The Department of Education and the eligible institutions should negotiate an agreement that would assure that the test is available either directly through the institutions or on a contractual basis with a state community college or university.*

- Academic Scholars Program**
23. *The Florida Academic Scholars Program should be maintained as an incentive to attract outstanding students to Florida postsecondary institutions. This program should continue to be non-need-based and awards should be made on a first-come, first-served basis to assure early notification of quality candidates. The Community College Coordinating Board should ascertain the number of quality students in state community colleges who currently are not participating in this program as a result of local tuition waivers. If community college tuition waivers are eliminated or sharply curtailed, the budget request for this program should be adjusted in future years to reflect the larger pool.*
- Adjustments in FSAG Program**
24. *The budget request for the Florida Student Assistance Grants Program also should be adjusted to reflect any increase in the potential pool of possible applicants as a result of the change in the tuition waiver policy in the 28 community colleges. As noted in the Commission's tuition policy recommendations, if a postsecondary education institution desires to use a portion of its flexible funds for financial aid purposes (generated by applying a tuition index percentage within the allowable range but above the percentage used by the Legislature), a specific plan should be developed and filed with the Florida Student Financial Assistance Commission. All institutional financial aid programs should be considered by the Student Financial Assistance Commission in the development of individual student aid packages.*
- Student Employment**
25. *Consideration should be given in the financial aid study to encouraging industry/education linkages through the development of temporary employment opportunities. Such possibilities as earmarking a portion of state agency OPS funds for temporary student employees should be explored.*
- Part-Time Students Eligible**
26. *Florida residents enrolled part-time in Florida public or independent postsecondary education institutions should be eligible for need-based state financial aid programs. Such programs should not be limited to specific age groups.*
- Financial Aid for Graduate Students**
27. *The financial aid study should specifically address the financial aid needs of graduate students. In order to be competitive with other states in attracting high quality graduate students, consideration should be given to such options as increasing graduate student stipends, creating a specific grant program for graduate students, and waiving matriculation fees for all graduate assistants. In addition, graduate students who are Florida residents should be eligible to participate in the state loan program recommended earlier.*

Implementation of the above general recommendations will provide the basis for a sound financial aid policy that is consistent with overall quality improvement goals.

PART III

**Strengthening Educational Performance
and Process**

STRENGTHENING UNDERGRADUATE EDUCATION

Over 200,000 students attend some form of undergraduate academic and professional education in Florida's public and independent colleges, universities and community colleges. Undergraduate education is the most important segment of postsecondary education. The associate or baccalaureate degree is the highest level of study attained by most students. Undergraduate education also provides the basis for entering graduate and advanced professional education. The standards and expectations of undergraduate education challenge the K-12 sector, particularly the secondary schools, to corresponding levels of achievement. High standards in college lead to high standards in secondary schools. Also, the quality of teachers in K-12 largely depends on the quality of undergraduate education.

Improving Quality

The oft-stated goal of improving undergraduate education requires specific action. The colleges and universities have made progress towards achieving this goal. A list of important college-level learning skills has been adopted by the State. The college-level academic skills test now being developed will lead to students who are better prepared to pursue upper-level university studies. The universities and community colleges have recognized the importance of such skills and are reviewing the relationship of existing curricula to the development of these essential learning outcomes. The State Board of Education recently called on postsecondary education to ensure that all students spend more time developing essential literacy and mathematical skills. Universities are proposing higher freshmen admission standards, and efforts are being made to enrich the academic content of high school curricula. Community colleges are taking steps to identify sooner those students who are not ready to attempt the college-parallel curriculum. Also, several efforts to coordinate the curricula of K-12 and postsecondary education are already in motion, particularly in the teacher education area. More are being considered.

Disquieting elements and obstacles exist in the improvement of the quality of undergraduate education. Core curriculum requirements have been steadily reduced so that greater proportions of students' programs are composed of elective courses. Students are not often expected to demonstrate essential writing, speaking and inquiry skills. Written assignments, papers, and essay examinations are required far less often in all fields. Too little of the special funding for quality improvement is applied to undergraduate education, particularly to the first two years of college. Student-faculty ratios in lower division instruction are too high. In lower division education, average class size rose in the state universities during the 1970's. Expenditures per student in lower division education declined markedly, while expenditures per student rose in upper levels of education, particularly in graduate education. The current faculty reward and promotion system does not encourage teaching undergraduate students. Reversing this attitude will not be easy.

Quality undergraduate education depends upon the degree of rigor with which teaching and learning are undertaken. Able and committed

**A Key to
Quality:
Greater
Academic
Rigor**

faculty are the initiators of such high standards, challenging students to develop the abilities that have always been the hallmark of an educated person. These are spoken and written communication, fundamental mathematics, logical thinking, the capacity for inquiry, and critical judgment. Sometimes faculty discover and encourage creative talents. Such abilities and capacities are learned and polished only through strenuous, unceasing, and monitored practice. There is no way to short-cut this exacting process.

Academic rigor is achieved, however, only under several related conditions:

- a) Well-prepared students from the secondary schools.
- b) Higher entrance standards.
- c) A core curriculum centered in the liberal arts.
- d) Emphasis on, and high standards for, the teaching and acquiring of the academic skills of reading, writing, discourse, critical inquiry, logical thinking and mathematical reasoning.

Within the general policy recommendations found on the following pages, all concerned with postsecondary education should be charged with creating these conditions. As an expression of policy, the State Board of Education should expect academic institutions to assume these matters to be their direct and immediate responsibility.

Well-Prepared Students

Students who expect to enter postsecondary education should be better prepared if they are to profit from more demanding college programs. Better preparation is fundamental to every other factor for strengthening undergraduate education, including raising admissions standards from their current levels. Long-term success will be achieved by strengthening the link between postsecondary education and the K-12 schools. Postsecondary education must contribute in at least two ways:

First, teachers must be prepared to teach more rigorously the coursework and basic skills required. This will place new demands on teacher preparatory programs. Increased work in subject area fields will be necessary in pre-service programs as well as more emphasis on reading, writing, speaking and mathematics. Certification standards must be raised to ensure that all teachers are able to demonstrate the basic skills, directly and by example, and have mastery of a specific subject area.

Most improvement in student performance in the K-12 schools will depend, however, on the greater effectiveness of the teachers already in the system. In-service education should be designed to improve the ability of experienced teachers to teach basic skills. Also, the increasing emphasis on science and technological education requires that the teachers' knowledge of these subject areas must be constantly updated. Effective performance in teaching should be rewarded by increases in teacher compensation.

**Improved
Teacher
Education**

Coordination of Curricula

Second, the curricula of schools and colleges must be coordinated. Postsecondary education should redefine what will be taught, particularly in the first two years of college. This will influence secondary schools to enrich their curricula and raise standards to prepare students for the college curriculum. This interaction will improve performance at both secondary and postsecondary levels.

Because an improved relationship of K-12 and postsecondary education is so critical and because it calls for coordination and cooperation among different sectors of education, detailed recommendations are included in the Plan's section on Coordination and Cooperation.

Higher Entrance Standards

University Admissions

Entrance standards should be based on the realization that not all students are prepared for the academic challenges of college and university work. Greater academic rigor is possible only when students can surpass the present expectations. Those who cannot rise to higher standards, but are motivated to learn, should be guided to programs outside the universities or to remedial programs where they may remedy their deficiencies and reassess their potential as students.

Admissions may be influenced by student character, motivational strengths and intellectual potential, if these less measurable factors are shown to relate to successful academic performance. The use of these more flexible, comprehensive admissions standards, however, must not impede the state's movement toward the goal of higher standards, as measured by more traditional criteria. Both can be accomplished if admission procedures and enrollment levels are planned carefully.

- 1. Universities should continue to raise their admissions standards, as measured by traditional criteria including grades, standardized test scores, high school rank-in-class, and the nature of the high school courses. Total reliance, however, on a single criterion for calibrating the increase in admission standards should be avoided. Alternatives to the overriding emphasis upon standardized test scores should be explored because some students have intellectual or motivational strengths which do not appear on traditional measurements.*

Academic Placement in Community Colleges

Explicit statewide standards are desirable for students who seek placement in the college-parallel courses at community colleges. These standards should reflect the appropriate levels of basic skills which are necessary for successful college work. Students should have to meet these higher standards before being accepted in college transfer programs. Along with the clearer standards for essential skills, more effective counseling and diagnostic testing should be used to place students appropriately. Students whose levels of achievement in communication and computation skills are below established standards should be limited to remedial courses and any other instruction for which they are deemed adequately prepared.

- 2. Explicit standards for basic skills (reading, writing, listening, speaking, computation) should be established on a*

statewide basis. These standards should relate to student ability to undertake college work successfully, and should be the basis for admission and placement in college parallel programs.

Core Curriculum in the Liberal Arts

Importance of General Education

In 1977, the Carnegie Foundation labeled general education "a disaster area [which] has been on the defensive and losing ground for more than 100 years."² The situation has worsened since the 1960s with less student and faculty time being devoted to fundamental knowledge and skills. Curricula are much less structured, and more geared to specialized majors and job preparation. The departmental, disciplinary structure of higher education favors specialized education and does not produce a natural lobby for general education. There are critical areas of knowledge and important ways of learning to which all college students should be exposed. Clear definitions of these areas will help high schools to emphasize key knowledge and skills and will make learning more continuous and integrated in the progression from secondary to postsecondary education.

3. Colleges and universities should identify a core curriculum, which reflects essential areas of knowledge in the liberal arts. This revised view of general education should be coordinated with the secondary schools so that high school students know what content and standards will be expected at each level of education.

Critical Learning Skills

The value of liberal arts education should be recognized not only for its relation to the goals of good citizenship and self-fulfillment but also to the goals of economic livelihood and upward mobility. The honing of intellectual skills, which stems from a liberal arts education, is the most basic element in successful employment. As John W. Gardner has stated:

"On many occasions in the future there will be an imbalance between the number of men trained for a given line of work and the number of jobs available. Attempts will be made to minimize this through accurate forecasts of manpower needs, but experience with such forecasts has been discouraging. The alternative—and the wiser course—is to educate men and women who are capable of applying fundamental [education] to a wide range of specific jobs. Nothing contributes more damagingly to the unemployment of educated talent than rigid specialization and rigid attitudes supporting this specialization."³

²Carnegie Foundation for the Advancement of Teaching. *Missions of the College Curriculum*. San Francisco: Jossey-Bass, 1977.

³Gardner, John W. *Self-Renewal*. New York: W.W. Norton, 1967.

Emphasis on Critical Skills

Great emphasis should be placed on the vital skills of reading, writing, discourse and criticism, logical thinking, scientific inquiry, mathematical reasoning, and problem-solving. The emphasis should be supported by requiring more student time spent practicing these skills and studying subjects which promote such activities, especially the liberal arts and sciences. More should be expected of students in performing these skills and standards should be raised accordingly.

Writing deserves special emphasis because it is central to learning and thinking in all fields. Writing is a key process in developing the critical abilities of logical thinking and problem solving. Brain, eye and hand interact to construct meaning and enable learning which cannot be achieved in other ways.⁴ Obviously, writing is fundamental to communicating ideas and thoughts in academic and non-academic pursuits. Indeed, most effective academic evaluation is based on written work. Just as important, however, is that writing is a powerful process for constructing thought, testing logic and thinking critically, which precedes actual expression.

The fundamental impact of writing upon thought and expression means that it should be emphasized throughout the curriculum. Writing should not be confined to English courses but should be required in all disciplines in which writing's beneficial effects on learning, thinking and communication are valuable.

- 4. Faculty and students should focus on the critical skills of reading, writing, discourse and criticism, logical thinking, scientific inquiry and mathematical reasoning. In particular, writing should be emphasized throughout the curriculum.***

Need for Challenging Standards

To strengthen undergraduate education, faculty must demand better performance from students, especially in the critical skills. These demands should be reflected both in the establishment of minimum performance standards and of teaching and grading practices that continually make clear the expectation for higher levels of performance. Requiring written work as a basis for evaluation is essential.

The development of the College Level Academic Skills Program will provide minimum performance standards for the academic skills. These may put more emphasis on such skills, particularly for students who enter college well below the standards. These minimum standards, however, are unsuitable for the majority of students who would benefit from higher expectations.

- 5. Minimum standards for performance on the basic skills should be established. Additional standards should be developed for the important academic skills to challenge students of all ability levels, particularly the most able students.***

⁴Southern Regional Education Board. Writing Across the Curriculum. *Regional Spotlight*, June 1982, 14 (1).

**Course
Evaluations
Critical**

Course evaluation and grading procedures are still the most effective ways to convey standards. Since students concentrate primarily on that which they will be tested, assessments of student performance in their undergraduate coursework should emphasize improvement of the essential skills.

6. As a step in developing these higher standards, governing boards should encourage faculty to review their grading and evaluation practices to ensure that they promote the highest academic outcomes in all students, by recognizing distinct levels of performance.

**Focus on
Students**

The State Board of Education, Board of Regents and the Community College Coordinating Board must make clear that strengthening undergraduate education is an immediate and certain goal. In the universities, ways must be found to alter the idea that an institution's progress and reputation are primarily measured by the number and quality of its graduate programs. The Commission has heard a variety of criticisms of undergraduate education including large classes, inadequate counseling, lack of reward for undergraduate teaching, and frequent use of graduate students in undergraduate classes. Institutions should make sure that such criticisms can be heard, analyzed and evaluated by faculty and administrative leaders. Some institutions have established an office of an Ombudsman whose job is to seek out and collect student criticisms and recommend actions to improve undergraduate education.

7. Colleges and universities should guarantee that student views about undergraduate education are sought, heard and acted upon in an organized way.

A special State University System task force studied the quality of academic advisement. It found that there is a general need to improve the quality of undergraduate advisement and that:

- a) Each institution should develop an integrated and coherent policy on academic advisement.
- b) Faculty participation in academic advising should be rewarded.
- c) Faculty members and others who engage in academic advising should be trained for this activity.
- d) Undergraduate catalogs should be reviewed and updated.
- e) When appropriate, technology should be used in improving academic advisement.

These recommendations are a positive step and the Commission encourages other sectors of postsecondary education to apply them where appropriate.

STRENGTHENING GRADUATE EDUCATION

The goals of graduate education are to expand and transmit knowledge and to train students in the techniques of such activities. Graduate schools traditionally have prepared the next generation of teachers and scholars for higher education. The teaching and research functions of graduate education are needed beyond the educational establishment and in the community as society's need for specialized knowledge increases and as practicing professionals experience greater need to develop new and more complex skills.

For graduate education to be strong, it must maintain the following elements: faculty, professional staff and students of the highest caliber, equipment and facilities, an energetic and independent program of basic research, and a close involvement with the community through the application of teaching and research to non-academic settings.

High Quality Faculty, Professional Staff, and Students

The best way to strengthen graduate education is to recruit the best faculty, professional staff, and students nationally and internationally. The State's ability to recruit and retain outstanding faculty and staff is related to the level of compensation, the quality and selectivity of current programs, favorable professional conditions, and a strong public commitment to quality education at all levels. Faculty and professional staff salaries must be comparable nationally to attract top candidates and to ensure effectiveness in performance. Salaries and benefits in Florida public higher education must be competitive with those provided in comparable institutions and programs.

1. Salaries should be competitive to attract and retain the best research and teaching faculty.

Increased financial aid and fellowships are essential in recruiting the nation's and State's top students for graduate study. Such financial aid allows institutions to be more selective and to retain students after enrollment. Without a stronger system of graduate student support, Florida will continue to fall behind other states which have more generous programs.

2. Financial aid for graduate students should be augmented substantially.

Support for Basic Research

The creative process of searching and discovering, known as research, plays a vital role in higher learning. The professional obligation of a community of scholars is to contribute to the growth of knowledge. A more specific obligation is to help solve problems of the community,

state, and nation. In addition, research provides faculty with more knowledge on which to base their teaching and stimulates students to find more excitement in learning.

The creative process of searching and discovering gives higher learning a mission that cannot be achieved by any other effort. Teaching and research are of equal importance. Efforts to improve both functions should never be relaxed. University faculty are expected to do research and their compensation in Florida is based on this assumption. Because of this expectation, the State is a substantial supporter of research.

**Concen-
trated
Resources**

The expansion and advancement of knowledge prospers with faculty and graduate students joining in an environment of openness and communication. It has been argued that a major reason for the success of research and of research training in the United States is the development of a relatively small number of distinctive centers of research in which the ablest faculty and students are concentrated. Sufficient resources must certainly be provided at the advanced levels of study if the highest quality is to be attained. Costs are high because of higher faculty salaries, low student-faculty ratios, graduate student financial assistance and equipment needs. This places limits on how large the State's investment can be. It also points to the importance of attracting federal government and private support.

**Sponsored
Research**

Basic research is of extraordinary value to the nation and the State. It has improved immeasurably the quality of life in our country by increasing agricultural productivity, improving health care, and creating new technologies, to name just a few areas. Over two-thirds of basic research in the U.S. is done by universities, mostly with federal funds, and Florida's universities play an important role in the national effort. In 1980, the University of Florida ranked 49th, and the University of Miami ranked 42nd among all universities in federal support dollars.

Sponsored research funding depends to a great degree upon the quality, reputation and prestige of existing faculty, programs and equipment, with existing strong institutions and programs attracting most funding. The importance of a state having universities supported and positioned to attract a greater share of future federal support is magnified because this support is declining even as the need for research increases.

3. An important state goal should be the improvement of the current rankings of Florida universities in receiving non-state-sponsored research dollars. The State should support this goal by program and financing decisions that lead to centers of research strength.

**Links With
Industry**

Federal and state support for basic research may be supplemented by support from business, industry, and other private agencies. Closer alliances with the private sector are not only financially advantageous but also serve to expand the contacts and influence of university faculty. The Commission encourages the exploration of such ventures but also cautions university leaders to consider carefully the possible liabilities as well as the apparent advantages of these relationships. Policy should assure that joint ventures with the profit sector do not interfere with the responsibilities of university researchers to disseminate research findings and to communicate freely and openly with other scientists in all disciplines.

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4. *Universities should explore research relationships with industry, including the establishment of terms and conditions to govern such alliances.*

**Research
Not Tied to
Doctoral
Programs**

We recognize that faculty in all universities have a deep interest in the expansion of knowledge and that quality research is not always limited to doctoral programs or major research centers. Ways should be found to support the efforts of individual faculty members to conduct research. While Florida cannot afford the comprehensive funding required to support full sets of new doctoral programs for all institutions, it should provide resources to support selective faculty and student research in programs below the doctoral level. In the Plan's later section on Strengthening Faculty, the Commission specifies several kinds of support and incentives that should be considered to encourage and improve research in all institutions.

Need for Applied Research

Florida's economy and society would benefit substantially from more extensive applied university research activities. The increasing complexity of social problems and the rapid advances of technology are creating compelling needs for applied research. Stronger linkages should be established between such research and the community. Action is needed in three areas.

Rewards

First, universities should ensure that applied research is explicitly recognized in academic reward systems as an important activity.

**Inter-
disciplinary
Approaches**

Second, academic researchers should seek more interdisciplinary approaches. The problems of society seldom reflect the boundaries between academic disciplines. Florida should support research that confronts the problems of society through the applied research of whatever social and technical disciplines hold the promise of meeting these needs. The principal criterion for evaluating these multidisciplinary approaches should be the extent to which they effectively meet the needs and challenges of actual problems.

**Applied
Research
Units**

Third, Florida should promote the application of the latest and best technological research from universities to business and industry through the development of applied research units for science and technology, and for the social sciences. These institutional units should coordinate the research needs of the state's business and industry, government, social and cultural agencies with the problem-solving and research activities of faculty.

These units could serve several functions: maintaining an inventory of faculty and institutional strengths and areas of expertise; surveying needs for applied research; and acting as a program and fiscal agent to bring faculty and industry together in a mutually beneficial relationship. They would guarantee the "knowledge transfer" between universities and industry.

Coordination at the state level also would make more cost-effective the relationship of universities and scientific and technical industries. The Plan's section on Coordination sets forth in some detail possible statewide functions of such a clearinghouse.

5. *Universities should recognize the value of applied research and award it appropriately.*
6. *Researchers should seek out interdisciplinary approaches to applied research.*
7. *Institutions should consider establishing organizational units to coordinate applied research with the needs of the State's business, industry, government, social and cultural agencies.*

**Placebound
Professionals**

As the volume of information increases and the development of new knowledge quickens, professionals increasingly turn to graduate education to improve their skills and to participate in the expansion of knowledge in their profession. Educators, engineers, health workers, social workers, accountants, and managers present special needs for education at higher levels. In some fields, periodic recertification is already mandatory.

To meet these needs, graduate education should offer certain advanced graduate programs on a regional basis, where they are close to the professionals to be served. To meet the needs well, however, practicing professionals should have access to the best state resources.

8. *Explicit state policy should be developed that differentiates between advanced programs which require proximity to professional workplaces and those which do not. The policy should encourage use of the latest educational technology to place resources in reach of all students.*

**Interchange
of Faculty
and Practitioners**

The links between education and the workplace should also be strengthened to enable faculty to understand better the problems faced by practitioners.

9. *Practicing professionals should be called upon to serve as adjunct faculty in professional fields. Procedures should be developed to encourage full-time faculty to work periodically in their professional fields in non-academic settings.*

STRENGTHENING PROFESSIONAL EDUCATION

The Commission recognizes the existence of critical planning issues in the important area of professional education. We believe, however, that the resolution of discipline and program issues in professional fields such as agriculture, architecture, business, journalism, law, pharmacy, and others, are properly the domain of faculty. Therefore, we have refrained from making special recommendations on strengthening education for these professions, limiting ourselves to an analysis and description of the needs for these professions in terms of supply and demand, the results of which have already been noted in Part I.

The Legislature, however, through provisions of the 1982 General Appropriations Act, has directed the Commission to develop statewide plans and priorities for education in the health professions and in engineering. These professional programs, which are given unusually high importance, require a separate and independent analysis of needs, student demand, cost, and coordination.

Health Professions

The Commission will develop a comprehensive plan for health professions education in Florida to include all areas of medical education: medicine, dentistry, veterinary medicine, nursing, pharmacy, allied health, public health, and technical training. Initially, priority will be given to new, expanded, or modified programs in public health and nursing. The comprehensive plan will include the following recommendations and analyses:

- a) a policy on the State's responsibilities to provide its residents with an opportunity to study medicine, dentistry, etc.;
- b) a policy on the State's responsibility for funding medical education;
- c) an analysis of the State's health manpower needs for the next ten years;
- d) a policy on the collection and maintenance of medical manpower information for state planning purposes.

The plan will consider the in-migration of medical manpower, the age and growth of Florida's population, and the medical needs of part-time residents and tourists. By March 1, 1983, the Commission will report an outline of the overall comprehensive plan, a description of the capabilities of existing groups to provide health manpower planning information and recommendations on the best approach to collect useful health manpower planning information.

Preliminary Recommendations on Nursing and Engineering

The compelling need for more nurses and engineers and the legislative funding issues related to these programs prompted the Commission to examine these two fields in some depth during the past year. While more detailed recommendations on need, program responses, and funding will be developed during the coming year, the Commission summarizes its preliminary recommendations on education for nurses and engineers in this Plan.

Nursing

The demand for nurses far exceeds the number available for employment. This scarcity is national, and not limited to Florida. The causes of this imbalance are numerous. Salary levels and working conditions are frequently such that trained nurses leave the profession for more attractive employment. Furthermore, actual employment sometimes results in a mismatch of skills with educational levels. Nurses are trained to various levels of knowledge and skill through programs which do not build upon each other. Hence, nurses who work to upgrade their education must often, in effect, discard previous degrees and start a new and lengthy course of study.

The Commission is under no illusion that its recommendations will redress this imbalance, but believes that implementation of its recommendations will improve the situation. The programs which now provide, respectively, for diplomas, two-year, four-year, and graduate degrees should be coordinated so that they are building blocks in a single structure. A student should be able to progress smoothly through the various levels by building upon and receiving credit for skills and knowledge obtained in a lower-level program. Continuing education programs should be readily available to enable nurses to upgrade existing skills and attain new skills rendered essential by technological advances. Existing public programs should be supplemented through contracts with independent colleges and universities, thereby making education more accessible to place-bound students. This will avoid unnecessary duplication of existing programs. The recommended coordination cannot occur unless those responsible for health care arrive at a consensus as to the appropriate educational preparation required for nurses who perform at different levels of responsibility.

Clear Needs

- 1. Nursing organizations, the State Board of Nursing, nurse educators, hospitals and other prime employers of nurses should jointly identify differences in required competencies for nurses who work in various settings and with various levels of responsibility. These differences then should be related to corresponding differences in educational and training programs, and in compensation levels. Nursing manpower studies should differentiate the need for nurses by required educational level. The Commission will examine the extent to which the additional study toward the baccalaureate degree is recognized by the health care industry in terms of job responsibilities and compensation.*

**Improved
Articulation**

More effective progression up program levels by students with a practical nursing license or an associate degree has a high priority. Better coordination of career development paths for RNs and LPNs is needed. The "career-ladder" concept depends on excellent articulation between various degree programs and the recognition of competencies obtained by nurses in previous programs.

- 2. Acknowledging the substantial progress in regional articulation resulting from efforts by the Commissioner of Education and others, the Commission supports and endorses the two resolutions adopted by the Commissioner's Nursing Education Study/Advisory Group.*

Resolved by Commissioner's Nursing Education Study/Advisory Group (January, 1980):

- that Florida's nursing educational program should be considered a professional development system which facilitates the access to and choice of formal education in nursing.*
 - that students/practitioners (LPN, ADN, BSN, diploma and graduate) will be permitted the opportunity to enter and to move through this system in a way that ensures recognition of the competencies which they bring from previous education and experience.*
- 3. The Articulation Coordination Committee (see State Board Rule 6A-10.24) should establish a nursing articulation sub-committee with the goal of creating a nursing articulation agreement between Florida public school districts, community colleges, and universities. Recognizing that significant curricular revision may be required, practical and professional nursing programs should be structured to provide logical career progression, building upon prior competencies.*
 - 4. The Commission intends to study the current status of articulation between Florida's high school nursing programs, LPN programs, public community college ADN programs, the Jackson Memorial Hospital (diploma) School of Nursing, and BSN programs in public and independent universities. These studies will be done within the Commission's legislative charge to develop a comprehensive health professions education plan for the State, and will involve the Board of Regents, the State Community College Coordinating Board and the Division of Vocational Education. The results of the study will be provided to the proposed nursing articulation sub-committee for use in developing a nursing articulation agreement.*

**Graduate
Education**

Although specific supply and demand data are not available, it is clear that Florida must provide adequate numbers of nurses prepared at graduate levels. Nurses with the Master's degree are needed as

faculty in nursing education programs, as nursing administrators, as nurse clinicians, and as professional leaders. Nurses with doctorates also are needed as graduate faculty members, researchers, administrators, and leaders.

- 5. Florida should provide adequate opportunities for graduate nursing education. Resources should be focused on a limited number of public and independent university graduate programs, but should permit adequate educational access throughout the State.*

Professional Relationships Much of the current shortage of nurses is caused by rapid turnover in hospital positions. This shortage is largely the result of problems within the health care industry.

- 6. The State of Florida should create a Professional Practices Commission for the health care professions to monitor professional relationships and arbitrate professional disputes between medical doctors, nurses, administrators, and other health care personnel.*

- 7. Medical schools in Florida should strongly emphasize in their preparation of medical doctors, the importance of nurses in the health care system and the necessity to establish more productive, supportive and professional relationships with nurses.*

Hospitals, in particular, are experiencing a critical shortage of nurses.

Clinical Preparation

- 8. Nurse educators should review the nature and degree of clinical preparation in their programs to determine if changes might alleviate the turnover problem.*

Engineering

The Commission examined engineering education early in its master planning process because of its importance to state goals for attracting high technology industry to Florida. In 1981, the Commission found that existing engineering education in Florida would fall short of supporting state goals and consequently deserved high priority in the Master Plan.

The Florida Legislature and the Governor recognized this situation and provided substantial supplemental funds for engineering education to the State University System during both the 1981 and 1982 Legislative Sessions. To encourage the continued development of high technology industries in Florida and to meet the State's engineering manpower needs, Florida should continue the initiatives enacted by the Governor and Legislature. The 1982 Legislature also directed the Commission to review the needs for engineering education in the State and recommend to the Legislature by March 1, 1983, a plan to meet these needs. Owing to its examination of engineering issues to date, the Commission is prepared at this time to make certain recommendations concerning supply, quality and continuing education.

**Supply of
Engineers**

- 9. The increased production of engineers should remain a priority. Efforts should be directed toward increasing the pool of qualified applicants for engineering programs by enhancing secondary school curricula with more emphasis on mathematics and science courses. In addition, cooperation between universities and community college pre-engineering programs should be improved.**

Both public and independent colleges of engineering should be utilized to increase the supply of engineers, including contracting with the independent sector. The Commission believes that expansion of existing programs is a more cost-effective way to increase the supply of engineering graduates than establishing new programs.

Quality

- 10. Quality enhancement efforts to attract and retain superior faculty members, to acquire and maintain modern teaching and research equipment, to ensure adequate facilities, and to provide research and tuition grants to attract superior graduate students, should be continued.**

**Continuing
Education**

Funds to provide and improve continuing, graduate engineering education programs can be used best by directing them to established engineering schools. The Commission notes the need for continuing, graduate education for engineers to be coordinated at the state level, and also notes the vast potential for educational technology to place the best educational resources within the reach of practicing professionals in all areas of the State.

- 11. Continuing education for practicing engineers should be a high priority and should be coordinated at the state level. Support for the technology-based engineering education delivery system now being developed by the State University System should be continued.**

STRENGTHENING POSTSECONDARY VOCATIONAL EDUCATION

The mission of vocational education is to prepare people for gainful employment, including persons who have not yet entered the workforce, who are seeking to update or upgrade their skills to advance in a particular occupation, or who wish to change fields of work. Many postsecondary vocational education students are 25 years old or older, and this sector also serves younger students who leave high school before graduation.

Vocational education programs are designed to do the following:

- a) Help persons to explore different kinds of work.
- b) Prepare persons for effective entry into a specific occupation or cluster of occupations.
- c) Upgrade the skills of persons, including homemakers, who are already or have been employed so that they maintain stability, advance or re-enter a specific occupation.
- d) Serve the specific occupational needs of diverse groups of people with special circumstances such as the disadvantaged and handicapped.

Specialized courses are available to meet specific needs, as well as coordinated programs that can result in an associate degree or a certificate. Additionally, courses are available to meet specific individual needs. Vocational education normally involves formal training for careers requiring less than a baccalaureate degree and is currently provided by public school districts and community colleges. In addition Florida has a substantial proprietary vocational sector.

The needs for vocational education are twofold. First, an individual's need to obtain and to maintain gainful employment is critical to economic and psychological well-being. The growing prevalence of unpaid or volunteer work has also led to the demand for vocational training. Second, Florida's businesses and industries require well-trained people. Both purposes, individual and societal, are critical in a progressive state.

In terms of national standards, vocational education is strong in Florida. There is excellent access to its programs statewide, and expenditures per capita rank first in the nation. Furthermore, Florida boasts a solid system of proprietary institutions and independent trade schools. This sector is being regulated with increasing effectiveness and provides strong training alternatives in many fields.

The issue in Florida is how to make vocational education even stronger than it is now. Given its current strength, actions to improve vocational education must be directed toward specific weaknesses and must be carried out through clear policy at the state and local levels.

The most effective ways to improve vocational education are the following:

- a) Better knowledge of specific state needs for vocational education.
- b) Better coordination between different providers of vocational education.
- c) Clearer financial and organizational accountability.
- d) Better financing of equipment and staff development.
- e) Improved review of programs.
- f) Stronger links to state economic development goals.
- g) Assurance that all students acquire basic academic skills.

More Accurate Description of Needs

A clear idea of needs is crucial to the development of vocational programs. Substantial recent improvements in vocational planning have led to better manpower supply and demand data. There is still much to be done, however, to produce a more precise view of needs so that programs may be developed accordingly. The Commission supports the work of the Florida Occupational Information Coordinating Committee in providing useful supply and demand data. It is important that supply information includes all providers of vocational education, public and private.

1. *The resources of the Department of Commerce and the Department of Labor and Employment Security and the business and industrial communities should be brought to bear upon the problem of predicting manpower needs. Regional demand data, when received from the State, should be checked on the local level with area businesses and industries to ensure that they accurately reflect local demand. The Occupation Employment Survey of the Department of Commerce should continue to be supported.*

Effective Counseling

It is difficult to plan so that the supply of workers exactly meets industrial demand in specific vocations, particularly when viewed within single regions. While a perfect match between supply and demand is never attainable, individual and industrial manpower needs should nevertheless reflect each other as nearly as possible. Effective vocational counseling and placement are keys to reaching this goal. Florida has the framework of an effective Career Information Delivery System composed of (1) CHOICES, a computerized career counseling system, (2) VIEW, a system for disseminating local and statewide career and educational information, and (3) CAPS, a statewide placement service.

2. *Occupational specialists and counselors should be hired to maintain the valuable link between training programs and placement opportunities. Occupational specialists are particularly important for the smooth functioning of work-study programs. These specialists could also help to coordinate the joint use of faculty and equipment by education and industry.*

Knowledge of Employment Opportunities

- 3. Students should be fully informed by postsecondary education institutions about potential employment in a given area prior to enrolling in a program, and the Division of Vocational Education should work with the local educational agencies to ensure that students are not unknowingly enrolling in programs with low placement rates.*

Better Coordination

Importance of Effective Coordination

In Florida, vocational education is provided by both school districts and community colleges. In 14 of Florida's 28 community college regions, the community colleges are the primary providers of postsecondary vocational education for one or more of the school districts in the region. In 34 school districts out of Florida's 67, public schools have primary responsibility. Coordination is essential because of the many combinations of programs between district and college. For example, a community college region may include multiple school districts in which the college may have total responsibility for postsecondary vocational education in one district but not in others. And even if the community college is not the designated vocational center for a district, it still offers vocational programs. The courses in these programs are different from those in the public school in content and level of study. Coordinating practice with principle is difficult. Given this varied delivery system, and the likelihood that persons seeking vocational education may be the fastest growing group desiring postsecondary education over the next decade, sound policies must be established for the coordinated and cost-effective delivery of vocational education.

Coordination has two dimensions: the effective articulation of students crossing over delivery systems and the cost-effective use of state and local resources.

Student Articulation

- 4. Career ladders leading from one level of competency to another, within the same institution or among different institutions, should be clearly delineated to avoid waste of students' time and resources. When necessary duplication of programming exists between the public school districts, community colleges and proprietary institutions, the programs should be recognized as similar in content and students should not be forced to repeat such programs in another institution.*

- 5. The statewide course numbering system should be used to identify similar course offerings and to distinguish different levels of competencies across institutions and sectors. The resources to support this program should be provided.*

Effective Use of Resources

Coordination of programs between school districts and community colleges is uneven. In some regions, coordination is effective, unnecessary duplication is limited and programs lead to others in an organized, educationally sound manner. In other areas, this is not the case: competition exists between opposing providers of vocational education. Coordination must be improved but, at this time, the solution is not to

assign all postsecondary vocational education in Florida entirely to one sector. Historical, economic, social and personal factors operating at the regional and local levels differ greatly and a statewide solution is unlikely to be effective at this time.

**Regional
Coordinating
Councils**

A structure of regional coordinating councils now exists. These 28 councils, one for each community college service region, were established by State Board Rule in 1972, and are responsible for making recommendations to the school boards and community college boards to avoid unwarranted duplication, and to ensure that needed programs are offered. These councils review multi-board agreements that concern the coordination of vocational education, adult general education, and community instructional services to meet the needs of all residents in the region. Not all have been effective in achieving coordination. The potential for effectiveness they represent should be made a reality in all areas of the State.

- 6. Regional Coordinating Councils should be given the state-level policy direction and support to carry out their critical coordination functions. Because their activities stretch across different sectors and concern linkages and cooperation between educational segments, specific recommendations for strengthening these councils are included in the Plan's above section dealing with the coordination of different sectors of postsecondary education.*

Clearer Accountability

**Organiza-
tional
Placement**

The ways in which vocational education is organized and financed pose obstacles to increasing its effectiveness. Vocational education is not always an integral division with clear lines of management authority and accountability, particularly in the community colleges. In some cases occupational programs are mixed with other programs organizationally. This organizational mixture results in a lack of clear-cut lines of responsibility, unclear mission, and diversion of funds.

**Financial
Accounta-
bility**

As a general principle, funds appropriated at the state level for specific purposes should be allocated to and expended on programs designed to meet those needs. The Commission has received testimony that state funds generated by vocational needs are not always spent on occupational programs at the district and community college level. Section 237.34, F.S., requires that at least 80% of the funds generated by each school district for specific program categories be expended in those categories. No such requirement applies in the Community College Program Fund.

- 7. Community colleges and school districts should review the organizational placement of vocational education and make changes to improve accountability and to ensure that the high priority and distinct goals of vocational education are reflected in its institutional setting.*

- 8. Procedures should be developed by state and local officials to ensure that funds generated by state formula for specific*

vocational categories are primarily expended for those purposes. Consideration should be given to requiring that a percentage of funds generated in the Community College Program Fund for vocational programs actually be expended in those programs.

Better Financing

Vocational education must be able to keep pace with rapidly changing technology. The Commission has received broad-based testimony that current funding is barely keeping up with present day needs, particularly with regard to equipment. We acknowledge the substantial need for and cost of staff development. As vocational education becomes more complex, staff preservice and inservice training must improve.

- 9. Salaries for vocational education teachers must be competitive and funds must be provided for upgrading their knowledge through exchanges with industries and through university training.*

High Cost

The ratio of equipment costs to other costs is high in vocational education and buildings to house this equipment are essential. Curricular materials and professional and technical assistance in designing courses and programs also are expensive.

- 10. State funding should reflect these special equipment and program development needs.*

Shared Resources

State resources are limited. Leaders of vocational education must further develop linkages with business and industry, which should lead to more cost-effective and shared use of resources.

- 11. Educators and industry should develop specific arrangements which would promote the following goals:*

- a. A greater use of adjunct faculty from business and industry.*
- b. More assistance by industry in upgrading the skills of faculty.*
- c. More apprenticeship, on-the-job, cooperative training of students. These work-study and apprenticeship models offer students an opportunity to earn money and to familiarize themselves with the workplace. They help to produce better-motivated students, to update skills, and to create substantial savings to the schools.*
- d. Greater sharing of equipment and technical assistance between education and industry.*

Advisory Councils

Advisory bodies, composed of representatives from business and industry, can play key roles in program implementation, review, and evaluation and in the development of program objectives, curriculum

and student competencies. We note many examples of effective advisory relationships and urge that their success be duplicated statewide.

12. *Business-education advisory councils should be strengthened in all areas of the State. These councils should meet regularly and share their recommendations with the college presidents and school superintendents. Their chairs should be selected from industry.*

More Effective Program and Budget Review

Vocational education programs should be reviewed more rigorously. The results of such reviews should be tied to the budget process.

13. *Vocational education funding should be linked to mandatory, periodic program review, which takes into account:*
 - a. *Attainment of specified student goals and objectives.*
 - b. *Need for program, as measured by manpower data.*
 - c. *Need for program, as measured by recent placement rates.*
 - d. *Need for the program, as measured by the number of persons unemployed, under-employed, or seeking to prepare for employment.*
 - e. *Productivity and cost-efficiency.*
 - f. *Effectiveness of existing resource levels.*
 - g. *New resource requirements, including equipment and capital outlay needs.*

Greater
Emphasis
on
Placement
and
Follow-Up

14. *Placement and follow-up efforts should be continued and strengthened. Students should be followed for several years after they leave or complete a program. Placement rates should be carefully defined and should take into account student employment preferences, should be sensitive to temporary fluctuations in the economy, should not exclude students who are placed but did not finish the program, and should consider students placed in related fields as having been successfully placed. Funding should be provided to strengthen follow-up efforts.*

Placement rates should be utilized more effectively in financing vocational programs. Links between program and budget reviews should be strengthened.

Stronger
Links
Between
Funding,
Needs and
Placement

15. *Budget requests, appropriations, and institutional allocations should recognize not only student demand, but also state needs in specific fields and program placement rates. As placement rates in a program decline, funding should reflect the need to eliminate or scale down this program to free resources to meet greater and more pressing needs.*

Economic Development

Vocational education is the backbone of the economic development program in the State. Vocational programs must provide the quality technical training necessary to supply business with well-trained employees and to upgrade the skills of people already working. In the Plan's section on Economic Development, a special process is described by which the State can identify and prepare to meet the vocational training needs of emerging high-technology industries. This process would be in addition to the regular planning activities of the Division of Vocational Education for all other industries. Such concerted state-level planning would anticipate future training needs and provide incentives to encourage institutions to create new programs. Through this process, vocational education can be a major contributor to Florida's economic development efforts.

Special Process to Identify Future Needs

- 16. A special state-level planning process should be developed that would identify future training needs in high technology industries. As needs are identified, the State should provide special funding to initiate programs and to help offset the high start-up costs.*

Basic Academic Skills

The general basic academic skills related to reading, writing and mathematics are essential to the preparation of vocational students. Moreover, there are indications that in the future such skills will become even more important as the workplace becomes more technologically advanced. In developing general education abilities, the student acquires durable abilities that will be of lasting value, particularly in view of rising requirements for specific skills. As more fields become highly technical, they will require longer training periods and substantial grounding in academic skills. In these cases, an associate degree program in a community college is appropriate.

- 17. The development of general basic academic skills should be considered as important as technical instruction. Adequate instructional resources should be provided.*
- 18. The State Board of Education should develop guidelines to determine when a field of study has reached a level of technical complexity that makes an associate of science program in a community college more suitable than a certificate program.*

STRENGTHENING EDUCATION FOR ADULTS IN FLORIDA

Purposes

Students older than the traditional collegiate age are the fastest growing group in postsecondary education. In recent years the number of older students has grown rapidly in response to changes in society. These changes include the technological sophistication of the workplace and the home, the increasing frequency of career changes, and the search for satisfaction and meaning in personal lives. The purposes of adult learning vary widely, involving employment training and career advancement, acquisition of academic and social skills, and personal enrichment in the humanities and the liberal arts.

Prominence of Older Students

While the numbers of older students have been small in the past, such students are quickly becoming a major component of postsecondary education. In 1980, more than half of the students in public and independent colleges and universities in Florida and in postsecondary vocational programs were older than 24 years of age. Postsecondary education offerings for these students include the following:

- a) Collegiate and vocational programs for part-time and working students.
- b) Adult basic educational programs for adults with inadequate literacy skills.
- c) Programs for special groups of Floridians, such as senior citizens, immigrants and refugees, migrants, and adults who do not speak English.
- d) Continuing education for career advancement.
- e) Personal enrichment and leisure programs.

Postsecondary educational opportunities for adults are offered by public and independent educational institutions, business and industry, the military, and a variety of community organizations.

Florida's Unique Adult Educational Needs

Compared to other states, Florida has the highest average population age. It also has the highest percentage of persons aged 65 and older in the nation. In twenty years Florida will have the greatest absolute number of elderly citizens. Florida has achieved national prominence for the size and scope of its adult basic and high school completion programs and for its recognition of the continuing education needs of adults in the Community Instructional Services programs. Effective state planning for adult learning must recognize the continuing educational needs of adults, promote the careful development of programs to address these needs, and coordinate at state and local levels the implementation of quality programs.

Several topics must be addressed to improve educational services to adults. Most important are:

- a) Coordination of different providers of adult education.
- b) Delineation between state-financed and fee-supported noncredit instruction.
- c) More effective use of educational technology.
- d) Quality programs for special adult populations.
- e) Postsecondary education and the military.

Effective Coordination

Varied Delivery System

Adult general education is provided by both school districts and community colleges in Florida. In eight of the twenty-eight community college regions, the community college is the primary provider of adult general education for one or more of the school districts in the region. Five additional community colleges share the responsibility for providing adult general education with one of the school districts in the region. In two of these five, the responsibility is shared equally with the local school districts of Escambia and Okaloosa. In 57 districts the public schools have primary responsibility. Coordination is essential because of the many combinations of programs between district and college. The varied delivery system and projected growth of adult education make sound policies for its coordinated and cost-effective delivery essential.

Coordina- tion is Vital

There are two dimensions to the coordination issue: the effectiveness with which students cross over delivery systems (articulation), and the cost-effectiveness with which resources are provided by the different regional and local providers of adult education.

Effective Student Learning

Adults learn in a variety of places and by a variety of means and they want to maintain a high degree of control over their learning activities. Academic and career counseling must be sensitive to the needs of adults and be geared more toward providing information than prescription. Moreover, counselors should recognize the wide range of services available from all providers of adult education. The following recommendations are to enhance the effectiveness of student learning.

- 1. Career ladders leading from one level of competency to another, within the same institution or among different institutions, should be clearly established to avoid waste of students' time and resources. When necessary duplication of programming exists between different delivery systems, the programs should be recognized as similar in content and students should not be forced to repeat such programs in another institution. Competency examinations should be given to certify prior learning.*

Coordina- tion of Different Providers

Coordination of programs between school districts and community colleges varies across Florida. In some regions, coordination is effective, unnecessary duplication is limited and programs lead to others in an organized, educationally sound manner. In other areas, competition is more prevalent than cooperation between the different providers of adult education. The Commission, however, while concluding that better coordination must be an important concern of state policy, is not convinced at this time that adult education should be assigned entirely to one sector statewide. As with vocational education, historical, economic, social and personal strengths and liabilities operating at the regional and local levels differ greatly, and a better approach is to demand effective coordination of existing programs.

**Strengthen
Regional
Coordinating
Councils**

The regional coordinating councils have the potential to improve coordination for adult as well as vocational education. Accordingly, these councils should be given the statewide policy support and direction to carry out their critical coordination functions. Specific recommendations for strengthening these councils are included in the Plan's section on Coordination and Cooperation.

2. *The Regional Coordinating Councils should be strengthened to provide effective coordination of adult education programs.*
3. *Priority should be given to cooperation in providing educational services for adults. Public postsecondary education should work closely with independent colleges, proprietary institutions and trade schools to reduce unnecessary duplication of services. Postsecondary educators should join with community organizations such as libraries, social service agencies, and community centers to avoid duplication and to share personnel and facilities.*

**Uniform
Financing
Terminology**

4. *Since adult education may be provided by two different delivery systems, the funding guidelines and terminology used in the Community College Program Fund and the Florida Educational Finance Program should be uniform.*
5. *Providers of adult education often share facilities designed for the delivery of K-12 education. To assess and compare (among counties) the costs of delivering adult education, similar terminology and accounting practices are needed to determine costs for time-sharing and maintenance of these second-use facilities. If conflicts of time, space, or money arise, all efforts should be made to accommodate both programs. However, the needs of the K-12 programs should take precedence.*

**Links With
Business
and
Industry**

The most frequently cited reason for adults over 24 years old engaging in postsecondary education is to update and acquire new career skills. Stronger ties between business, industry and education will make education more responsive to the lifelong learning needs of Florida's citizens.

6. *Educators should actively seek the involvement of business and industry in basic skills education, curriculum development, and hands-on training. Business and industry should be encouraged to provide access to scarce and expensive equipment and to assist in up-dating skills for instructors.*

Delineation Between State- and Fee-Supported Programs

Postsecondary education institutions in Florida offer a variety of credit and non-credit instructional activities, some funded by the State

and others by user fees. Since often the same institutional office and people are operating different types of activities, confusion may exist at the state level, as well as with the public, as to the funding status of a particular activity. There should be a clear understanding of the needs of the specific groups, the programs targeted for them and the nature of the funding made available. Program areas should be defined well so that the agencies reviewing them can do so efficiently.

**Differen-
tiated
Program
Support**

7. *The Department of Education should ensure that management information systems differentiate clearly among the programs by nature of financial support.*

8. *Community Instructional Services (CIS) coordinators and other related staff should be informed of the type of programs eligible for CIS funding by means of an annual statewide staff development conference.*

**Recrea-
tional
Courses
Supported
By User
Fees**

Recreational and leisure activities courses are offered by many post-secondary educational institutions. These programs are, unfortunately, perceived by some people as an unwise use of educational funds, especially when reports persist about the inability of youngsters to read and write. While these activities are an important addition to the life of the community, the total cost should be borne by the user and not by the State. These courses should be implemented only when need is clear. Large scale advertising and promotion should be avoided.

9. *Fees charged for recreational and leisure activities should cover the direct instructional costs of the activities, which include not only faculty salaries but also related costs.*

Special Adult Populations

**Need for
Part-Time
Study**

A number of adult populations in Florida have special educational needs. Many adults are restricted in their pursuit of postsecondary education opportunities by job and family constraints. Such students can attend courses only on a part-time basis.

10. *All educational policies, procedures and funding arrangements should be reviewed to determine whether they provide fair and equitable treatment for part-time students. Funding formulas should be sensitive to headcounts as well as to full-time equivalencies.*

11. *Florida residents enrolled as part-time, degree-seeking students in Florida public or independent postsecondary education institutions should be eligible for need-based state financial aid programs.*

**Adults
Acquiring
Basic Skills**

The Commission is deeply concerned about the high rate of adult illiteracy in Florida and associated high rates of underemployment and unemployment. Some three million adults in Florida do not have a high school diploma. The State's Adult Education program offers extensive

elementary and secondary level skills instruction to adults who have not finished grade school or high school or do not have the functional skills a high school diploma implies.

Vocational and Adult Education

12. Adult education should continue to emphasize basic skills education to enable all citizens to become independent and productive members of society. Close cooperation and sharing of resources are encouraged between employers in the public and private sectors and the providers of Adult Education. In addition, vocational and adult education programs should support one another. Adults learn better when their knowledge and skills can be seen to lead directly to useful employment.

Needs of Disadvantaged

Many adults who are most in need of learning—the disadvantaged, the handicapped, and the minorities—are least engaged in it. The poor, the undereducated and members of racial and ethnic minorities are much less likely to participate in adult learning activities than are the better educated and more affluent members of the population.

Effective Counseling

13. Information and counseling centers should expand their outreach to encourage the undereducated to pursue literacy and vocational education programs.

Agency Coordination

14. Cooperation should be improved between the providers of adult education and other state agencies, such as the Department of Health and Rehabilitative Services, the Department of Labor and the Department of Corrections.

Staff Development

15. Since teaching adults may require different approaches and skills, resources for development and training should be made available to adult education staff and faculty.

Senior Citizens

Florida is a national leader in providing educational opportunities for older citizens. Though the educational needs of senior citizens are as diverse as for any other age group, it is important to identify the special needs, interests, motivations and developmental characteristics of the older adult. For example, education for senior citizens is not only a social question but a health issue. There is a positive correlation between participation in lifelong learning and maintenance of physical and psychological well being in later years.

Gerontological Research

16. Public and private postsecondary institutions should expand and coordinate their research efforts in gerontology. Curricula should be reviewed to assure that professionals and technicians in areas such as social services, medical and allied health fields, and education address the needs of the elderly. Continuing professional and technical education programs should be used to inform practitioners about special needs of older adults.

17. Better information on the elderly should be included at all levels of education to combat negative stereotypes about the aging process.

- 18. The use of educational technology and other alternative delivery systems should be used to enhance educational opportunities for home-bound or institutionalized older people.*

Needs of Women

There have been profound changes in the role of women in society in the last decade. There have been significant increases in the number of women living alone, supporting children and working. There has been a sharp rise in the number of women students in postsecondary education and particularly the number of older women. Women comprise the majority of the older students returning to campus by nearly two to one.

- 19. Institutions should review their policies and programs to ensure that the needs of returning women students are identified and addressed, particularly in recruitment, admissions, financial aid, scheduling, and in policies governing part-time study and support services. A variety of support services including counseling, basic skills programs and refresher courses in math and science are needed.*

Needs of Handicapped

Over the last decade, significant efforts have been undertaken to integrate handicapped students into existing postsecondary educational programs and to keep at a minimum the establishment of special programs for the handicapped.

- 20. Institutions should review their policies and programs to ensure that the institutions provide suitable architectural and programmatic accessibility.*
- 21. The Auxiliary Aids program providing special state appropriations to institutions for the handicapped should be continued.*
- 22. Institutions should seek out support or assistance from local organizations with interest in or which provide services to the handicapped.*
- 23. The Department of Education should compile a list of the programs and services offered by postsecondary education institutions in the State and this material should be shared with high school counselors and community organizations for the handicapped.*
- 24. The Department of Education should see that accurate and complete data on the number of handicapped students in postsecondary education institutions are maintained.*

Special Adult Needs

Other special populations in Florida in need of educational services are immigrants and refugees, non-English speaking people, migrants and prison inmates.

- 25. English classes and vocational training should continue to be made available to these special adult groups to increase*

their self-sufficiency and ease their integration into the community. Training should lead to increased employability and be offered at sites convenient to the students.

Postsecondary Education and the Military

An extensive, special adult population in Florida with unique postsecondary education needs is the military. More than 120,000 military and civilian personnel are employed at a dozen major Air Force and Navy bases and numerous other military installations throughout the State. Their payroll exceeds one and one-half billion dollars per year, much of which is expended locally. As of July, 1981, 37 institutions, including 17 Florida public institutions, 12 Florida independent institutions and eight out-of-state institutions, were providing postsecondary education to approximately 16,000 students on Florida military installations. Due to the nature of military duty, with frequent transfers, temporary duty assignments, and often irregular hours, these individuals need programs which are flexible, easily accessible, and easily transferable.

26. Military Education Service Officers should be involved in the planning process for postsecondary education programs at the State and local levels.

The Department of Defense and U.S. Air Force directives and regulations require bases to maintain educational service plans and to submit them to "an appropriate state planning, advisory or governing body."

27. The Advisory Committee on Military Education (ACME) should be designated as the official State agency in Florida to receive and offer advisory counsel on military base educational plans.

STRENGTHENING REMEDIAL EDUCATION

Purpose of Remedial Education

The purpose of postsecondary remedial education is to develop student learning skills to the point at which the student can succeed in education after high school. A certain degree of remediation may always be necessary to remedy slight deficiencies in the preparation of students who are otherwise academically prepared and capable of performing college-level or other postsecondary work. Currently, however, a crisis in underpreparation has led many postsecondary institutions to assign to remediation a high priority. This situation should be addressed directly before the focus of postsecondary education, particularly in community colleges, is irreparably altered.

Critical Needs

The academic performance and preparation of prospective American college students has been deteriorating for nearly twenty years. A recent report by the Southern Regional Education Board (SREB), entitled *Preparing Students for College: The Need for Quality*, documents the decline in the performance and preparation of high school students. In addition to the much publicized reduction in standardized admissions test scores (SAT and ACT), the National Assessment of Educational Progress (NAEP) confirms the lesser preparation of high school graduates. On the Test of Standard Written English average scores have declined each year since 1975. A recent study by the Conference Board of Mathematical Sciences reported that the number of college and university students requiring remedial math courses has risen 70 percent in the last five years. College and university faculty members, in Florida and the nation, lament the lack of academic preparation and achievement of their students. This problem has reached crisis proportions, and Florida has initiated serious efforts in both K-12 and postsecondary education to alleviate the crisis. As necessary as these current efforts are to provide remediation at postsecondary institutions, the most logical and beneficial time for effective remediation is during the student's formative years in the K-12 system.

Identification of Pre-College Skills

There is not a clear consensus on the nature and level of skills needed to begin college-level work. Reaching such an agreement on college entrance and placement requirements is essential if clear policy is to be developed to address the needs of underprepared and underachieving students. Florida colleges, universities, and schools may then arrange their respective curricula to ensure that instruction in those skills identified as pre-college is provided in the schools, and instruction in those skills identified as college-level is provided by the community college and the lower-division undergraduate programs at the state universities. (It should be noted that those skills identified as college-level are actually sophomore-level.)

1. *The Articulation Coordinating Committee (established by State Board Rule 6A-10.24(14), with the addition of representatives of K-12 education) should identify those academic skills that must be acquired in the K-12 sector (pre-college) and those skills that are best developed in college. Performance standards for those communication and computation skills necessary to begin college-level work should be defined and made clear to the schools.*

**Entrance
to College-
Level
Programs**

While the current need for remedial education is great, such education is not a college-level academic function and should be a separate program.

2. Entrance to all non-vocational forms of postsecondary education, including admission to college-parallel programs in community colleges, should be limited to students who meet minimum standards for those essential skills identified as appropriate for college freshmen (pre-college skills).

**Responsi-
bility of
K-12**

3. No later than 1990, the responsibility for ensuring that students have met the standards for communication or computation skills identified as pre-college (or those skills appropriate and necessary for students who plan to enter college) should clearly reside in the K-12 sector. In those counties where all of adult education is provided by the local community colleges, adult students still in need of pre-college skills would return to the community college. Such students should not be admitted to a college-parallel program until they meet the minimum standards for those essential skills identified as appropriate for college freshmen.

**Need for
Transitional
Programs**

Given the current crisis in student skills and the time required to improve the preparation of students now in K-12, special efforts are required to meet these needs between now and 1990.

4. The State should finance transitional services between K-12 and postsecondary education that would help students to remedy deficiencies in those essential skills identified as necessary to begin college level work (pre-college). These remedial transitional services should be offered in Florida public community colleges, should be distinct from college-parallel programs, and should be phased out by 1990. All Florida public community colleges and state universities should require entering students to complete an assessment test to measure levels of attainment of communication and computation skills. Students found underprepared in academic skills should successfully complete remedial courses before proceeding in those areas. Within the students' abilities, they should, however, be allowed to take regular courses in other curriculum areas. In this way, the students in remedial courses are not "tracked" and isolated from the mainstream. All remedial courses should require exit examinations.

5. By 1990, remedial courses should be limited to students with special needs such as older, returning students. These mature students will require upgrading in basic academic skills when they return to a formal educational environment for occupational and academic advancement. The community colleges are often the most appropriate place to provide these services.

**Adequate
Funding**

- 6. The State should provide adequate funding to Florida public community colleges for these transitional services. This funding should continue until the current crisis in student underpreparation and underachievement passes and proposed changes are made in the K-12 sector. The State also should provide local school districts adequate funding for remedial programs to help students overcome deficiencies at an earlier, more appropriate stage in their lives.***

**Limited
University
Role**

The role of universities in remedial education should be strictly limited. When needs arise, universities should engage local feeder community colleges to provide remedial assistance, as is the case with the University of Central Florida and Valencia Community College in remedial mathematics instruction. The needs of students with deficiencies in college-level skills whose native language is not English, or students with specific college-level deficiencies who, nonetheless, meet minimum admissions standards should be met either directly by the universities or through cooperative agreements with local community colleges.

- 7. Universities should not offer remedial education except for students in special admissions programs. Universities should engage local community colleges to provide this remedial assistance whenever possible.***

In a recent study, consultants cited the mathematics skills development program at Florida Agricultural and Mechanical University as innovative and exemplary, but they noted that current and anticipated demands for the program exceed its capabilities. They recommended increased funding for additional staff and for staff development.

- 8. The Commission recognizes the significant contributions made by Florida Agricultural and Mechanical University in assuring increased minority participation in postsecondary education and supports its continued offering of quality remedial education. Quality improvement funds should be provided to enhance these programs.***

**Spreading
Model
Efforts**

Several institutions have made noteworthy efforts to address the needs of underprepared or underachieving students. Models exist in Florida which make extensive use of new communications technologies to personalize support services to such students, and which require that standards of academic progress be met by all students.

- 9. Exemplary efforts should be expanded statewide and made part of a consistent state policy on remedial education.***
- 10. Full use should be made of the recent advances in educational technology in providing remedial programs. The personalized approach that technology permits in support of regular classroom instruction is particularly appropriate for use in remedial education.***

Clear Limits State support of remedial education should not be unlimited and at some point, non-achieving students must be notified that society has made a full effort on their behalf and no further help will be provided.

11. Reasonable standards and time limitations should be placed on students to ensure that they do not remain in remedial education programs indefinitely.

Summary The Postsecondary Education Planning Commission believes that the responsibility for instruction in pre-college academic skills belongs in the K-12 sector, and the responsibility for remedial education in college-level academic skills belongs primarily in the community colleges. Remedial programs in universities should be limited to assistance for small groups of students with special needs. Until this goal is achieved, however, remedial education programs for all levels of skills are essential, should be provided in a rigorous and quality manner, and should be funded accordingly.

STRENGTHENING FACULTY

Faculty are the key to a stronger system of postsecondary education in Florida. Accordingly, the State should support the continuing development of strong faculty in all sectors. This support should include stable and sensitive policies on faculty compensation. There are special issues related to university faculty, owing to the multiple and sometimes competing activities in research, public service and instruction, in lower division through advanced graduate education. These complex responsibilities and the demands of the reward and promotion systems create special concerns for university faculty not found as often in other sectors of postsecondary education.

While focusing on faculty, certain recommendations apply as well to professional staff such as librarians and student services personnel. They provide support critical for teaching and research.

Faculty Compensation

The State and the various systems of postsecondary education should have faculty compensation policies that create incentives leading to the retention, attraction and reward of strong faculty. The following general recommendations should be fundamental to the development of explicit and stable compensation policies.

- 1. The salaries of faculty in the various segments of postsecondary education in Florida should be in the upper quartile of states by 1985.*
- 2. Faculty compensation should be based on well-understood, system-wide policies concerning salary schedules, longevity, and cost-of-living and merit increases.*
- 3. Guidelines should be established for rewarding merit beyond cost-of-living increases in all sectors. As criteria are developed, greater proportions of faculty and staff compensation increases should be based on merit.*
- 4. Merit should be defined in terms of effective performance on a range of important faculty activities. Effective teaching should be granted more weight than given now in the reward process.*
- 5. Florida should have a faculty retirement program which compares favorably to those in other states. This system should be a positive factor in attracting faculty from other states and retaining strong faculty.*
- 6. Faculty salaries should be equitable. The State Board of Education and the postsecondary education sectors should assure that all faculty and staff are compensated equitably and that any existing inequities are redressed.*

Strengthening Undergraduate Teaching

Better teaching and closer student-faculty relationships are crucial to stronger, more demanding undergraduate education in universities and community colleges. Emphasizing teaching is a special challenge within the universities because of the important research, scholarship and service responsibilities required by professional promotion and reward systems.

Florida should put heavy emphasis on undergraduate education. This will require state initiative in developing a faculty reward and development system that promotes better teaching. Because Florida is now being looked to as a bellwether state in postsecondary education, it has the leverage to take positive steps to encourage both teaching and research.

Teaching-Related Research

To a greater extent, the creative energy of faculty should be directed to teaching while maintaining research responsibilities. Only faculty can give professional credence to alternate forms and goals of research.

7. Universities should encourage research activities that directly enhance the teaching of undergraduates by developing better ways to organize and present the knowledge of a discipline.

Added Incentives for Teaching

Raising the quality of undergraduate education depends upon good teaching. Faculty, however, follow the financial and other professional incentives of the academic reward system, which are weighted toward research and scholarship.

Academic Rewards

Faculty compensation, tenure and promotion systems should recognize the importance of teaching and not be so weighted toward research as to leave Florida's goal for improved undergraduate teaching without the necessary financial support and incentives. It will be difficult to modify the academic reward system and Florida may be among only a few states in its effort to increase the prestige and rewards of undergraduate teaching. Such a commitment by academic leaders, administrators, faculty and their unions is necessary, however, if Florida's emphasis on undergraduate teaching is to have real effect.

8. Florida should develop a salary policy that recognizes the importance of distinguished teaching in all institutions.

Tenure and Promotion

The present tenure and promotion systems appear to provide incentives which do not promote closer attention to teaching, to the emphasis on liberal arts or to improved advising/counseling relationships with students.

9. The tenure and promotion systems (including continuing contract arrangements) should be examined to determine how they can encourage faculty teaching and advising.

Compensation According to Merit

Effective teaching and other student-centered faculty activities should be rewarded more generously in the faculty compensation system. A stronger relationship should be developed between effective teaching and salaries.

- 10. *Effective teaching should be granted more weight than given now in the faculty reward system.***

Incentives are needed particularly in universities that have programs primarily at the baccalaureate/master's level. Faculty in these institutions should be rewarded for their commitment to teaching.

- 11. *Funding formulas should recognize Florida's determination to promote undergraduate teaching and the value of universities which emphasize this mission.***

Support for Research

Research by All Faculty

Research is fundamental to all universities and most of their faculty have an abiding interest in research. With limited state resources, however, not all faculty can reside in a research university with large programs of sponsored research or have major responsibilities in doctoral-level education. Nevertheless, able faculty in all universities interested in research individually or as a group, should be able to look to a specific funding source for support of their own distinctive research projects at any level.

- 12. *The State and the Board of Regents should establish a state fund, administered by faculty, to support individual faculty research projects.***

Travel and Clerical Support

Current state support for faculty salaries recognizes that research is expected of most university faculty. This implicit encouragement of faculty research is critical and should not be underestimated. Adequate funds for travel and clerical support are also critical to research. Travel enables faculty to meet with colleagues to develop, expand and circulate new knowledge. Clerical support is essential to a profession in which written work is the primary means of action.

- 13. *Adequate funds should be provided for faculty travel and clerical support.***

Access to Research by Faculty

Qualified faculty in all institutions should have access to research programs at appropriate levels.

- 14. *To increase access to research activities, cooperative doctoral programs and the current network of shared graduate faculty should be encouraged.***

Development of Current Faculty

Reduced Mobility of Current Faculty

Nationally, the average age of faculty members is less than 50. Their mobility continues to decrease in the face of enrollment declines. Thus, most institutions will have essentially the same faculty over the next fifteen to twenty years. While the situation in Florida is not as severe as it is elsewhere, Florida will not escape from the slowdown in the

hiring of new faculty. Nearly 70% of university faculty in Florida are tenured (in some institutions over 80%). Therefore, the quality of post-secondary education will depend largely upon the improved effectiveness of current faculty. This is true for the faculty of community colleges as well as that of universities.

**Importance
of
Continued
Development**

Faculty require time and support to sharpen skills and to reshape curricula in response to new student needs. Current faculty will have to learn to use educational technology more effectively, and to relate their disciplines to new fields of study and to new problems. Florida should recognize the crucial importance of the continued growth and development of current faculty in all sectors of postsecondary education.

**Community
College
Develop-
ment Fund**

15. Florida should maintain the inservice faculty development fund of the community colleges and make sure that similar support is available for university faculty.

**Private
Giving**

The Commission recognizes the value of Florida's initiatives in providing challenge grants to encourage increases in private giving. The universities have used these funds to strengthen faculty through the Eminent Scholars Program.

16. Challenge grants should be continued and expanded to involve the public community colleges. In addition, community colleges should also be considered along with state universities whenever future non-recurring quality improvement funds become available. In both cases, however, such special funding should be consistent with system and state master plans for postsecondary education.

**Vocational
Faculty**

Faculty in vocational programs have particular needs to update their skills and knowledge given the rapid rate of technological change.

17. The State should recognize the needs for vocational faculty retraining and support exchanges with industry to update skills.

Minority and Women Faculty

Minority and women faculty are very important to the development of all students by acting as role models, student advocates, and monitors of institutional practice and policies. They are also of great value to the academic and scholarly life of postsecondary institutions as they often approach traditional subject matter and research with fresh perspectives.

18. Colleges and universities should seek to recruit more minority and women faculty members, administrators, and student services personnel and make sure qualified minority and women educators are promoted and tenured according to merit. Top administrators should demonstrate their unequivocal support for efforts to recruit, promote, and offer tenure to qualified women and minorities.

Part-Time Faculty

Faculty who work full-time for their institution and its students are more likely to produce quality education, research and public service than faculty who are employed part-time. Full-time faculty are able to engage more fully in activities such as student advising, course and program development and institutional services, which part-time faculty cannot, owing to the latter's divided energies and limited time on campus.

Two kinds of part-time faculty should be recognized according to their primary reason for being employed: part-time academic and part-time clinical. The first part-time category concerns faculty who are academics and are hired primarily for reasons of management flexibility and cost savings. The second part-time group are non-academic practicing professionals who are retained primarily to provide education on a clinical basis, bringing outside perspective and enrichment to the classroom setting.

Some use of part-time academic faculty is necessary for management flexibility and cost-efficiency. There is evidence, however, that part-time academic faculty are employed excessively in some institutions.

Instruction and research in certain professional and technical fields benefit from the judicious use of practitioners on a shared-time basis. This approach has been used successfully in medical schools in which direct clinical instruction is required and the cost of full-time academic faculty would be prohibitive. A growing number of other fields will need the current, practical knowledge that practicing professionals provide. Sharing these faculty with business and industry and government may be the only way to afford their services.

19. As a general principle, the use of part-time academic faculty for management flexibility and cost-savings should be limited. The Commission should determine the extent to which part-time faculty are now employed in community colleges and universities. Ultimately, the State Board of Education should develop policy on the extent to which part-time academic faculty should be employed.

20. The use of practicing non-academic professionals as faculty should be encouraged when they are able to provide valuable instruction and research. These part-time clinical faculty should be distinguished from other faculty employed part-time for other reasons.

Senior Citizen Faculty

Retired senior citizens represent a tremendous potential educational resource, which Florida enjoys more than other states. There are many retired people in Florida who have been extremely successful in their fields. Their expertise and knowledge could provide a valuable supplement to regular academic instruction, emphasizing the practical application of knowledge and its effects. The State should tap these talents.

21. The State Board of Education should develop a program and incentives for institutions to identify senior citizens whose expertise could be used to supplement regular academic instruction.

STRENGTHENING ACADEMIC LIBRARIES

The academic library is central to higher education's mission to preserve, transmit, and expand knowledge and culture. Students and scholars must have access to the most current and complete collection of information in their fields.

In the past, a quality academic library meant an adequately cataloged collection of books. Today, academic libraries spend much of their acquisition budgets on periodicals, serials, and many other media, especially microforms. Knowledge is expanding at such a rapid rate that scholars increasingly must rely on a variety of means, most of a technological nature, to disseminate and retrieve information.

Attempts by libraries to improve their holdings or even to maintain an adequate level of acquisitions have been hampered severely by sharp increases in the prices of books and other library materials, particularly periodicals and serials. These increases have far exceeded inflation. According to *The Bowker Annual of Library and Book Trade Information*, costs for books rose 273% from 1969 to 1979, while the costs of periodicals rose 398% during the same period. Despite conscientious efforts of the Governor and the Legislature, appropriations and allocations to Florida academic libraries have not kept pace with these staggering increases.

Steady Funding

Recently, the Legislature has recognized the importance of adequately funding libraries by providing special funding to universities and community colleges. Unfortunately, a variety of circumstances, including inflation, have combined to produce a sporadic, inconsistent pattern of funding for public academic libraries during the last ten years.

- 1. State-supported academic libraries in Florida should be provided adequate and stable funding, which reflects inflationary increases in costs for library materials.*

Changing Composition of Holdings

The explosive growth of knowledge and the advent of new information technologies are rapidly leading libraries away from their traditional image as repositories of hardcover books. The public needs to recognize that a modern library's holdings increasingly consist of periodicals, serials, microforms, and other media.

- 2. Educational policy-makers at the state and institutional levels should define library materials as broadly as possible and recognize this expanded definition when making resource and funding decisions.*

Institutional Priorities

The leadership of the Governor and the Legislature in requesting and appropriating significant increases for library books has partially alleviated the crisis in maintaining adequate levels of acquisitions. Institutional administrators, however, must assure that libraries also have adequate space and staff to house and manage these gains.

- 3. College and university administrators should identify libraries as a high priority in budget requests and allocations for facilities, staff, and holdings. Nationally recognized standards for space, staff, and holdings at academic*

libraries should be identified and used in the preparation of budget requests.

**Institutional
Cooperation**

Libraries in Florida have made great strides in recent years in developing a statewide library network connected to regional and national library networks, in initiating an automated, statewide unified catalog of holdings, and in building cooperative arrangements to share facilities and resources.

- 4. Current efforts at coordination, automation, sharing and cooperation should be continued to broaden the educational experiences of students, provide the widest possible access to materials, and avoid unnecessary duplication. Particular efforts should be made for common use of library resources when two or more colleges or universities are in the same county.***

**Community
College
Learning
Resources
Centers**

Community college libraries are usually included within learning resources centers (LRCs) which increasingly are involved in the development and support of instructional programs, particularly through the use of educational technology. Holdings of LRCs consist increasingly of such nonprint media as films, video tapes, and computer programs, as well as books and periodicals.

- 5. Each public community college should conduct a study of its learning resources centers in terms of the guidelines and standards for two-year LRCs developed by the American Library Association, the American Association of Community and Junior Colleges, and the Association for Educational Communications and Technology. Results of these studies should be reported to the State Community College Coordinating Board and used as the basis for requests for enhancement funding of LRCs. Unique characteristics of LRCs at community colleges that host area vocational-technical centers should be identified, and an appropriately modified set of program and funding guidelines and standards should be developed to reflect these unique characteristics.***

The Commission further recommends that community college LRCs, whenever possible, make computer and other resources available to K-12 students who could benefit from access to computerized career information, guidance, and instructional programs.

CONCLUSION

The Master Plan recommends many specific actions for strengthening postsecondary education over the next twenty years. In cooperation with the educational sectors, the State Board of Education and the Legislature, the Commission is developing a schedule for implementing the Plan's recommendations. Some recommendations establish broad principles which if adopted will require more analysis and refinement before translation into operating guidelines. Some recommendations provide a foundation upon which to build and should be implemented before others are adopted. Many of the recommendations are related, underscoring a major theme of the Plan, namely linkages. These relationships should remain as the recommendations are refined, considered and implemented over the next 15 to 20 years.

Although most recommendations do not require additional resources, the suggested actions taken as a whole will demand additional financing. A large majority depend on a more effective, focused use of existing resources. Nevertheless, the recommendations that do call for added resources support a general demand for increased state support of postsecondary education.

The Postsecondary Education Planning Commission is convinced that there is no more basic or important object of state support. While the natural concerns and sense of priorities of this Commission lead to its belief that postsecondary education should receive a larger share of state revenues, we also know that other agencies have, for them, equally valid claims on the state purse. Therefore, instead of reallocating existing levels of state revenue to favor postsecondary education, we urge enlarging the total revenue base of the State and targeting education for a major share of the added revenue. Even though we are in a period of financial austerity, this goal should be remembered.

The critical role of post-high school education in meeting Florida's needs and providing the basis for a better life for its citizens over the next two decades will justify increased support if this role is planned and managed effectively. From the beginning, the Commission has believed that a definitive plan to organize the efforts of each major postsecondary education segment through the year 2000 was a necessary prerequisite to making the case for increased financial support. In emphasizing distinctiveness in roles and statewide coordination to meet needs cost-effectively, the Master Plan provides a broad map for action that should assure funders that additional support will be used well.

In an early section of the Plan, education was referred to as more of an investment in the future than an expenditure for current consumption. Education is basic to all else. It stands as the most promising investment that could be made in Florida's future.